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Established 1835

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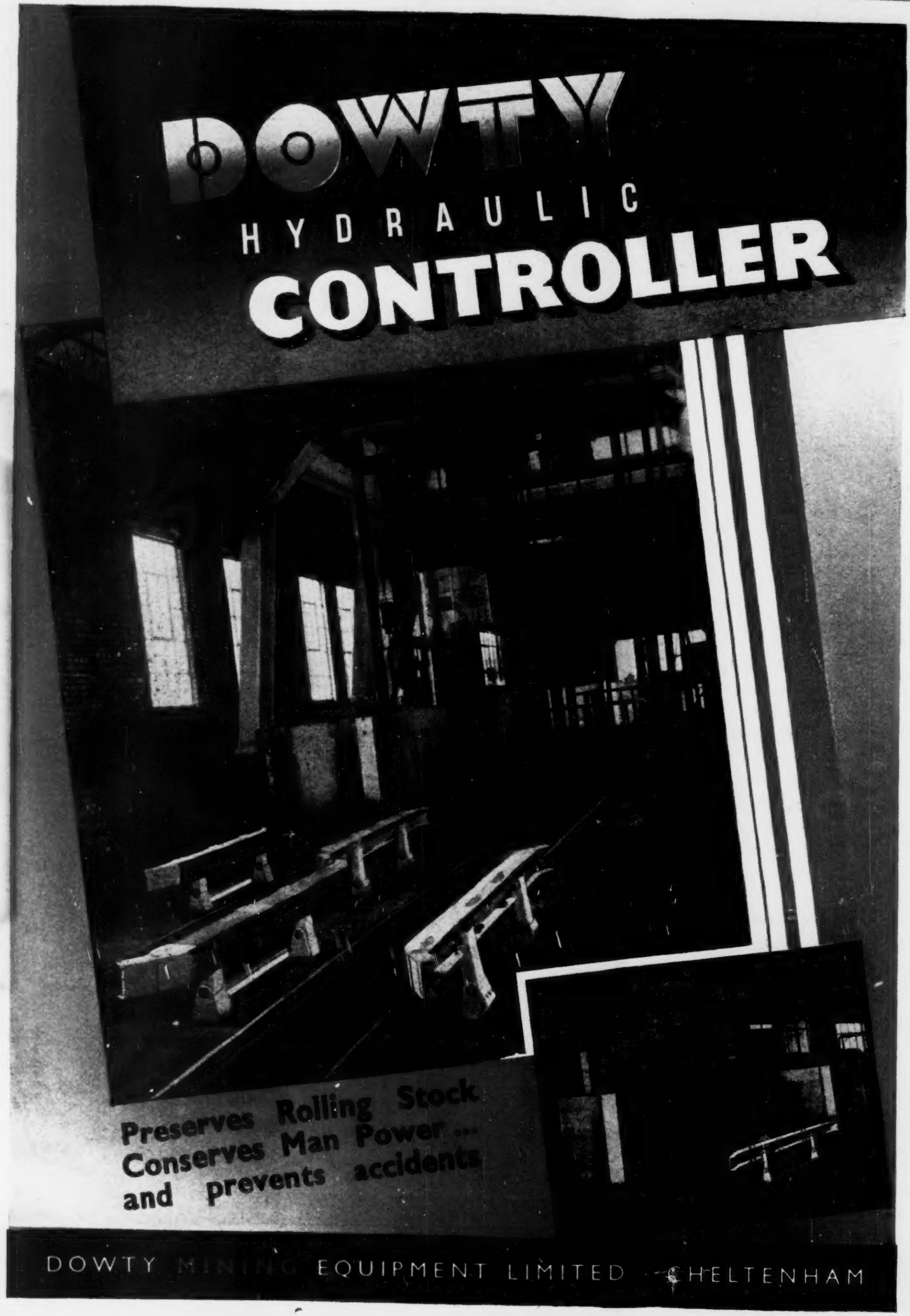
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NOTES AND COMMENTS

A Few Salients in the Tin Situation

The fourth quarterly statistical Bulletin issued by the Chief Inspector of Mines for Malaya, Mr. A. H. Cretch, shows a total production for the Federation in the last quarter of the year of 14,138 tons. The average price steadily increased, being £439.10 in October, £530.37 in November and £541.68 in December. The number of mines at work increased, being 113 European and 599 Chinese in October and 119 and 614, in December. Notwithstanding these two favourable factors of price and number of mines operating, the production of tin during the quarter was 324 tons less than in the third quarter of the year. The main reason for the decline was power shortage, and possibly the working of lower grade ground, which Mr. Cretch suggests as a possible reason, though our Malayan correspondent does not altogether agree with this supposition. The number of persons employed showed only a small gain, being 46,243 in October and 47,244 at the end of the year. Production by Chinese operated mines were just over 45 per cent of the total output as compared with, say, 35 per cent in pre-war days. The fact that output actually declined in the quarter despite the rapidly rising prices suggests that an increase in output in the current year is questionable, while, of course, the total reserves still to be mined are all the time being depleted.

Turning to another producing field, it is reported this week that a number of open workings operated by the Géomines Company in the Congo have been flooded to a depth of from 8-10 metres following a severe storm which is believed to have done considerable damage.

There is still no news regarding the outcome of the prolonged negotiations between the United States Procurement Organization and the Bolivian Government anent a new tin agreement, but there is some very significant news regarding the reduction or elimination of tin in the manufacture of tin cans. The American Can Company has just announced satisfactory progress in the commercial production of "tinless" tin cans. In pilot line operations cans have been made without the use of tin and with only low tin-bearing solder at speeds comparable to those for ordinary tinned plate. It is further believed that cans made with tinless solder can be adapted to universal use, while a further refinement, using plastic cement in place of solder for side seams, is now under test.

The ultimate objective of all this research and experiment is to free the American can industry permanently from its dependence on foreign sources of can making materials. We have for many years insisted on the inevitableness of a gradual substitution of tin by other materials in the American canning industry, due to the progressive increase in tin price initially due to restriction on production, emphasized, as it has been of late, by the fantastic rise in prices and by their huge fluctuations. The N.P.A. recently issued a long list of canned products which may only use limited quantities of tin, or no tin at all. In these circumstances the tinless can must, in the opinion of the American Can Company, have a most immediate application. Last year the canning industry consumed 31,000 tons of tin in the production of 33 billion cans. We cannot of course tell how long the United States Government will continue to stockpile tin, but if it is possible to produce a satisfactory can without consuming tin, stockpiling of the metal by the United States Government may sooner or later be reduced or even suspended, and the famine in the metal reduced to manageable

Opencast Mining to be Encouraged

The fact which stood out more than any other in last week's coal debate in the House of Commons was that if this country is to maintain a policy of full employment, a heavy defence programme, and a high rate of exports, present ideas of what production targets ought to be badly stand in need of revision. The possibility that coal crises may become a chronic feature in the future was recognized by the Minister of Fuel and Power when he said that he was as anxious about the next two years as he was about the next two months. Nevertheless, recognition of difficulties, however commendable in itself, will not produce more coal and the real test of government is to devise plans and implement policies to overcome them. In this respect the Government, if it had any plans, failed to disclose them. Their faith, as before, was still pinned to kinder weather conditions and temporary expedients hastily formulated to meet the emergency.

The Opposition confined its attack on Government policy to its failure to live up to its promises. In general terms, their criticism consisted of a catalogue of complacent statements made by the Minister of Fuel and Power and other authorities contrasted with the warnings the Government had received from reliable sources as far back as last summer that a coal crisis was looming—all of which had been continuously ignored. Constructive criticism was limited to the declaration that the coal industry could not be efficiently run from Whitehall, and that a large part of the present trouble was due to the lack of decentralization.

The Minister of Fuel and Power never really answered the Opposition's criticism, and contrived to explain the present shortage by referring to the unforeseen adverse weather conditions and equally unexpected increase in domestic consumption. But the most ominous part of his speech came when he announced that the pithead price of

coal was to be increased by 4s. 2d. per ton, and that of coke by 6s. 3d. a ton. To provide the country with the increased coal production necessary to meet both the normal increase in consumption and the demands that will be made for the fulfilment of the armament programme, Mr. Noel Baker outlined a plan falling under three headings: opencast mining; further mechanization, and measures to increase manpower.

Of opencast mining the Minister informed the House that the Government's former decision to taper off opencast coal production after 1953 now had to be revised. The new decision meant that opencast coal working would be carried on at a high rate up to 1955 at least, and the Government hoped that with more intensive prospecting, 50,000,000 tons of opencast coal would be produced during the next five years. This figure, however, was a provisional one and he made it clear that unless the production of deep-mined coal during the same period exceeded all present expectations, fully this quantity, and more, would be needed. The second way in which he thought more coal could be got was by providing more power loaders at the face wherever conditions allowed. The Minister paid tribute to the Meco-Moores, which he said had served the Coal Board well, and this year a substantial number of Samson Strippers would be installed—a form of capital investment, the Minister added, which he hoped would be expanded with all reasonable speed.

Finally, Mr. Noel Baker referred to the problem of manpower in the pits, and said that the present recruiting drive had added 6,500 in the last few weeks, bringing the strength to 9,000 above what had been expected. Part and parcel of the new drive to reverse the trend of manpower away from the pits was the building of 10,000 houses for miners over the next two years—with a minimum of 13,600 by special measures if need be; the exemption of underground workers from the call-up schemes; permitting ex-miners, now in the armed Forces, to volunteer to return to the mines, and the employment of foreign workers.

Steel Industry Nationalized

Like a crusade without a cause the Government has pursued relentlessly and obstinately the nationalization of the steel industry—,and for what? In all the long and dreary debates on this question which, as Mr. Strauss remarked, generated much heat but produced no fresh ideas, the Government have never given the nation any reason to believe that they had other than the vaguest idea of what nationalization was meant to accomplish or of the advantages which it was supposed to bring. Nor have the Opposition's probings been able to uncover the motives behind the Government's decision. Indeed, there seems to be no logical foundation for what Mr. Churchill described in last night's debate as "this crazy act." The steel workers have not clamoured for it, labour management relations in the industry are exemplary, and although technically the Government may claim to have a mandate on the strength of being returned at the General Election, there is no evidence from the recent public opinion polls to support it. It would indeed seem that once again party doctrine is being put before the national interest and the unity of the Labour Party before the unity of the country.

To relieve fears as to the consequences of nationalization at a time when the affairs of the nation are in an "anxious and critical state," Mr. Strauss has set up a committee representative of both the Corporation and the Iron and Steel Federation, "whose responsibility it will be to see to it that as far as practicable all the iron and steel requirements of the arms programme will be met." This is no doubt a step in the right direction, but to believe that its inauguration has only now become of vital importance is to believe that it is the tide of events, and not the Government, which is shaping this country's policies.

Australia

(From Our Own Correspondent)

Melbourne, January 30

Gold production in Western Australia, for the 12 months of 1950, was 606,172 f.oz. compared with 644,252 f.oz. in the previous year. The production of New South Wales for ten months ended October 31, was 36,954 f.oz., a decrease of 14 per cent on the output for the corresponding period of 1949. For 11 months of 1950, Victorian production was 54,057 f.oz. or 7,770 oz. less than in the corresponding period of 1949. Output reported for the Commonwealth for the first ten months of the year was 705,344 f.oz.

Western Mining Corporation and Gold Mines of Kalgoorlie are extending their holdings. Western Mining Corporation has taken an option over the Premier leases at Kunanalling, north of Coolgardie, and has pegged four adjoining leases, making a total area of 100 acres. When originally worked, the mine was very rich down to the 140 ft. level, which is about water level. No work has been done below this horizon since 1904. Gold Mines of Kalgoorlie has pegged 48 additional leases on the western side of the south end of the Golden Mile. The purpose of the new area has not been stated, but is probably part of the programme covering the search for repetitions of the Golden Mile formations, for which purpose Kalgoorlie Southern Gold Mines was formed by Western Mining Corporation.

There has been, hitherto, well founded opinion that payable gold occurence on the Mount Magnet field was limited to a comparatively shallow depth of about 500 ft. Work during the past three years on the leases of Hill 50 Gold Mines has disproved this belief, at least so far as that particular part of the field is concerned.About four years ago, the company was in a difficult position, but a vigorous development programme was put in hand and results have been very satisfactory. Following extensive diamond drilling, a new main shaft was sunk, and development has now proved 200,000 tons of ore of an average of 5½ dwt. gold per ton; development has reached a depth of 800 ft., and it is stated that further development at the 600 ft. and 800 ft. levels will make additional ore available and increase reserves. Average rate of production is about 55,000 tons of ore per year, and last year's net profit was £A50,057; working cost per s.ton, exclusive of development and depreciation was 38s. 4d. per ton, despite an increase in the basic wage of 12s. 2d., and in the industry allowance of 18s. per week.

A discovery of rich lead ore is reported from Onslow, and 65 men are stated to be on the new field. Government is assisting with machinery necessary for operations, but, so far, it does not appear that any company has become interested in the discovery.

TASMANIA

King Island Scheelite (1947) Ltd. is prominent, following the announcement of a profit of £A190,000, to which the company has been helped by the high price ruling for tungsten. As the year closed on October 31, and the early part of the year was affected by shortage of water resulting from drought conditions, it is expected that, given continuous running, the current year's results, during the high price period which still continues, will mean an even more successful year. It has been stated that the United States' Government has offered a long-term contract for the company's product, but terms have yet to be decided. Threat of a hold-up to operations is likely, owing to threatened waterside and shipping industrial disputes, but in such an event it is likely that the company will operate a ketch between King Island and the Mainland, to carry stores and concentrate.

Background to the Gold Coast Elections

Because the elections which are taking place as we go to press will give the Gold Coast almost complete "Home Rule," there has been a good deal of anxiety lest the powerful extreme left-wing Convention Peoples Party attempt to interfere with the efficient working of the mining companies. Consequently the market for "West Africans" has been depressed for some time past despite the excellent results recently published. This reaction is not altogether surprising for the financial barometer cannot be set to "fair" until the political atmosphere has cleared. It is therefore the purpose of this article to attempt an appraisal of this atmosphere at the moment when these Elections are actually taking place, and to consider whether any grounds exist for the fears which have been expressed.

Prior to 1947 no serious political cloud marred the Gold Coast horizon, although during the lean years of the 'thirties, when the cocoa revenue slumped sharply and the national revenue fell by half, a crude form of nationalism began to take shape. The second world war fostered this national awakening in a variety of ways, the most outstanding of which arose from the opportunities given to West Africans to travel to other countries and compare political structures against social and economic environments much like their own. Yet the real driving force in the Colony for greater political power stemmed from the increasing number of educated West Africans who, on returning to their native land found little or no opportunity to exercise their talents in public office.

This situation produced unfortunate results. At first, however, the intelligentsia were content to press for political advancement within the constitutional framework. Petitions were sent to the Colonial Office; overtures were made; organizations were formed like the Youths' Conference and by dint of constant pressure combined with moderate demands, the Gold Coast advanced relatively quickly along the road to self-government. The Burns Constitution of 1946 formally acknowledged their progress and for the first time the Gold Coast and Ashanti were politically united and the official majority in the Council was replaced by an African majority transforming it into a representative legislature.

The quiet but favourable acceptance of this constitution fostered the belief that it would be more than a temporary arrangement. Unhappily, it was the lull before the storm.

THE FORMING OF THE PARTIES

Political combinations no less than industrial combinations tend to form in years of economic distress, and the two years following the Burns Constitution, in which inflationary pressures in the Gold Coast coupled with ravages of swollen shoot in the cocoa industry, provided an excellent background for the creation of a political party. Dr. J. Boakye Danquah, long active in the political affairs of the Colony and the founder of the Youths' Conference, formed the United Gold Coast Convention Party (U.G.C.C.) in 1947. Ideologically nationalist and aiming at the achievement of self-government within the Empire, the party for a time represented the wants and aspirations of all politically-minded Gold Coast Africans. But its policy of self-government within the shortest possible time—and the time factor is the essence of the matter—was not quick enough nor its methods of achieving it radical enough for some of its members. Consequently, its former General Secretary, Mr. Kwame Nkrumah, a 41-year-old African lawyer, possessed of great organizing ability and excellent platform magic, broke away in June, 1949, and founded the Convention Peoples' Party (C.P.P.). Ideologically the two parties are the same; both are nationalist but here the similarity ends. The aim of the C.P.P. is for self-government *now*—an important qualification for its implicity sanctions the use of any means by which this desired end may be achieved.

The riots in Accra in February, 1948, antedate the forming of the C.P.P. but it is interesting to note that the Watson Commission which investigated the disturbances represented Nkrumah as being sympathetic to Communism. More than that, of course, the Watson Commission made certain suggestions for constitutional reform which in turn led to the setting up of an all African Committee under the chairmanship of Mr. Justice Heneley Coussey, an African Supreme Court Judge, to examine and consider the extent to which these suggestions could be accepted as well as the manner in which they should be implemented.

THE COUSSEY COMMITTEE

The justly famous Coussey Committee included Dr. Danquah amongst its 39 members, who were drawn from widely different political backgrounds. Mr. Nkrumah, however, was not invited. The exclusion of Nkrumah undoubtedly contributed to the smooth functioning of the Committee, but at the same time it gave him a golden opportunity to organize his party during the 10 months his opponents were politically inactive while framing the report.

If the publication of the report in October, 1949, indicated another milestone passed in the political history of the Gold Coast, equally so did it mark the date when the Colony's political rivalry assumed serious proportions, bidding caution to the investor, and causing anxiety to the Gold Mining Industry.

What then is the position to-day on the morrow of the elections, and what are the answers if any, which will either confirm or allay these doubts and suspicions?

Hindsight does not necessarily give foresight, but if past experience can be relied upon all signs point to the Convention Peoples' Party gaining an overwhelming majority of the 38 seats in the Legislative Assembly to be contested on the basis of adult suffrage. As will be shown later there are in all 84 seats in the Assembly. That this may well be the result is not surprising for Nkrumah and his party have shrewdly guessed the mood of the West African. They appeal to the West Africans as West Africans and not as black men overlarded with the white man's veneer. The party carry their politics into the streets where the full-time paid party members talk to the market-women, the labourers, the industrial workers and to the unemployed; mass meetings are held in the open; local branches are organized; use is made of the Press and the pamphlet, the automobile and the loud-speaker. No opportunity is lost to exploit the grievances of any individual or section of the community and the women's vote is especially solicited. As for their tactics, more than one learned traveller from this country has remarked that our party propagandists could learn much.

Be that as it may, no tactics, however well devised can lay the firm foundations of nationhood when inseparably joined to an emotionally powerful appeal devoid of all substance. Consider the wisdom and political maturity of a people who have deified Nkrumah believing that he can overcome the law of gravity as easily as he has transcended all principles of economics. For it is in this latter connection, the easy promises of higher money incomes for all and improved standards of living, that his appeal has made the deepest impression. That the problem of reconciling higher money incomes and improved standards of living with cheaper food and non-co-operation with the European in raising production has not been answered seems of little importance to his followers. But it does

raise the question of how far the party will attempt, if given the opportunity, to drain the Colony's mining industry of its resources by even higher taxes.

Of the other main party, United Gold Coast Convention, there is little to say. Its programme is sound, its methods constitutional, its attitude to the elections apathetical and its leaders respected by all serious thinking persons in the Gold Coast. Nevertheless, it must not be forgotten that its leader, Dr. Danquah, as an influence on both the intelligentsia and the youth of the Colony is still impressive.

THE NEW CONSTITUTION

But what of the constitutional vehicle which the members of the Executive Council and Legislative Assembly will have to learn to drive? The new Executive Council will be composed of eight African Ministers appointed by the Governor from members of the Assembly subject to the Assembly's approval, together with three officials—Chief Secretary, Attorney-General and Financial Secretary—who as ex-officio members will be responsible for defence and external affairs, civil service, and finance and justice. Of the African ministers, six will be in charge of government departments (including agriculture, education, health, labour, local government, commerce and industry, communications and works), and two without portfolio. The President of the Council will be the Governor, who retains his reserve powers of certification and veto on legislation. Normally, however, all questions will be decided by government vote.

The Legislative Assembly will consist of 84 members, of which 75 will be Africans elected directly or indirectly, three will be official members and six will be appointed by the Chambers of Commerce and of Mines—although only two out of the six will have a vote. Of the 75 Africans 38 will be elected directly or indirectly by adult suffrage (every man or woman over the age of 21 who has paid the State Levy of four shillings and who has resided in the district for six months having the vote), and 37 members will be elected by traditional bodies, that is to say, by the Territorial Councils.

But before battle is joined two new factors of unknown force must be introduced. First of all, the Government's comprehensive campaign of instruction on voting procedure. Trained instructors equipped with fourteen mobile vans toured the whole of the country in October to explain the voting procedure with the help of loudspeakers, maps, diagrams, films, gramophone records, books and leaflets. Every detail was thoroughly described. In addition, nearly 300,000 copies of pamphlets and leaflets were distributed in English, and in the vernaculars to explain about the elections.

Secondly, the fact that the previous elections were held under a system of voting tantamount to a show of hands enabled the C.P.P. by a combination of intimidation and ju-ju to frighten countless voters into casting their votes for them. When the elections are held this week secrecy of the ballot will be maintained and this fact has been dinned into the ears of all who can hear and written for all who can see.

SAFEGUARDS AGAINST IRRESPONSIBLE ACTION

Leaving aside the wider question of whether the West Gold Coast African is fit to shoulder the responsibilities of a big measure of self-government—one which for better or for worse has now been decided by H.M. Government—let us try to envisage the outcome of the elections.

Even conceding that the C.P.P. gains the vast majority of the 38 seats in the Assembly to be contested by the popular vote, it must be remembered that there are still 37 seats to be filled from the Territorial Councils, which represent the chiefs and traditional forms of authority. Hardly any of these seats will fall to Nkrumah's party. In addition, there are three permanent officials who receive seats and six representatives of the Chambers of Mines and Commerce who will have a further two votes. Therefore, control of the Assembly by any one party becomes next to an impossibility. Of more importance is the fact that the Governor still retains his reserve powers and use of the veto which can be exercised to override legislation if he deems it to be contrary to the best interests of the Colony.

As checks against irresponsible actions these safeguards are more than adequate. In any event, it is a common experience of democratic governments which may well be repeated here that the policies of parties in power quickly and of necessity tend away from extremism towards the middle of the road. This point has particular significance in the Gold Coast where constitutional outlets for Gold Coast politicians previously have been few and unimportant. Certainly no one could have foreseen the magnanimous spirit shown by the leaders in India to-day towards the Commonwealth and Empire after the long terms of imprisonment which many of them suffered and the bitter campaign of "quit India now." Nor is this analogy out of place, for the Gold Coast African is much inspired by the Indian leaders, especially Ghandi and Nehru.

ROLE OF THE MINING INDUSTRY

With regard to the mining industry, fears that it will be seriously affected by the new constitution find little confirmatory evidence. Of the past years, it is generally true to say that the Gold Mines have been little affected by labour troubles. Partly due, no doubt, to the fact that its labour comes chiefly from the Northern Territories which is considered to be more or less a "depressed area," and where alternative jobs which give as high a standard of living are difficult to find. But even so, the credit for such labour relations lies principally in the attitude of the mining industry to its African employees.

Central to any discussion on the wants and aspirations of the Gold Coast African is his great desire for social and economic betterment. In this respect the mining industry has done much. Every opportunity is taken to promote the further advancement of the African employees technically and socially; every encouragement is given to enable them to attain the more responsible posts on the mines' staffs, and already this policy of "Africanization" has equipped them for the positions of foremen, shift bosses, accountants, surveyors, draughtsmen and clerks. With regard to social welfare schemes, all the producing mines provide doctors, hospitals and medical treatment free of charge to their African employees and their families and, be it noted, afford the same facilities at a low charge to other members of the local African communities. Schemes for improving the housing of the African labour force have been carried through at great expense to the mining companies. At Bibiani, for instance, over £70,000 has been expended in recent years on a new model village, which includes an African club with all the modern amenities, hard tennis courts, football fields, etc. The same keen interest in their employees welfare is maintained in connection with their feeding. In short, it can be said that the mining industry has done more than any other industry in the Colony for the welfare of its workers.

But these are not the only eggs which the proverbial mining industry's goose has laid. In an admirable pamphlet published recently by the Gold Coast Chamber of Mines to bring home to the West African at this crucial time the vast benefits the gold mining industry has brought to the Colony, it is pointed out that during the four years to March 31, 1949, the value of gold production at current

prices amounted to £20,517,347, while payments to Gold Coast Government suppliers, staff and labour force, including expenditure on capital account totalled £21,092,858. Golden eggs indeed! There is, of course, more to this story, and one could mention the building of the railway from Sekondi to Tarkwa, which was inspired by gold mining activities, and to the continuation of this main line from the latter terminal point to Kumasi, which was not undertaken until Ashanti Goldfields Corporation had guaranteed its revenue.

These advantages which the gold mining industry confers have far-reaching effects. For the industry's average labour force represents more than one-tenth of the total number of Africans employed in the Colony, the figures being 28,920 Africans and 743 Europeans. Significant too, is the fact revealed by these figures that Gold Coast mines employ nearly 40 Africans to each European employee, whereas in the South African mines the proportion of coloured to white employees is only 8 to 1.

Although the foregoing, in large measure, speaks for itself, it is perhaps as well to stress that only the most malicious and irresponsible persons could ever think of instituting action calculated to kill the goose that lays the golden eggs. Finally, it should be stressed that every Gold Coast politician cannot fail to be aware that without a reasonable assurance of political and industrial stability there is no likelihood of the various schemes for the expansion of the industry, which had to be pigeonholed some years ago, being revived—thus depriving the employees and the Colony of further benefits.

Mines of Classical Greece to Re-open

After more than 2,000 years, the ancient silver, lead and zinc mines, which gave commercial supremacy to ancient Athens, may again play a big part in the economy of modern Greece. For instance, the historic Laurium mines, about 25 miles south-east from Athens, are to be expanded and re-worked, using the most modern techniques. Controlled by Mediterranean Mines Inc., an American mining firm operating in Greece, funds are to be allocated under the Marshall Plan loan to get production started. The company is to repay the advance with shipments of lead and zinc to the U.S. strategic stockpile.

The U.K. is already benefiting indirectly from the new project, as the American Government is allowing sufficient quantities of zinc to be shipped to Britain.

Marshall Aid for the Laurium area started in 1949, when the firm received a preliminary loan to buy machinery, develop the Sounion-Avlaki-Vromopoussi mines and build a 200-ton capacity concentrating plant.

The Laurium mines are situated opposite Makronissos Island, and are connected with Athens and the port of Piraeus by rail and road. Almost every tourist who has visited the famous ruins of the Temple of Neptune, high on the point of Cape Sounion, has seen the huge grey slag piles of the ancient mines.

Geologists believe that mining began as early as 1000B.C.; the mines reached the height of their importance about the middle of the fifth century B.C., and continued to yield rich returns for 300 years. There are more than 2,000 ancient pits in the region; some are almost 400 ft. deep, but none extend below sea level. The ancients were apparently unable to cope with underground water and the thick marble beds.

The ore is a silver-bearing sulphide of lead, with which are associated the sulphides of zinc and of iron. The silver content in the old days ranged from 40 to 120 oz./ton of ore—and rarely less than 60 oz. Judging from the dumps of the old workings, modern geologists estimate that silver to the value of £280,000,000 was produced during the three centuries when ancient mining was most prosperous.

It was the silver from the Laurium mines which enabled the small city state of Athens to win her supremacy in the fifth century. Then, as now, Attica was a poor land agriculturally. The region exported wine and oil, but was forced to import wheat. The unfavourable trade balance was paid with silver from the Laurium mines. The sound coinage of Athens was the most important single reason for the city state's dominant position in international trade of that time. Indeed, all Greek economic development after 1000B.C. is a fascinating history of mining and coinage; the first Athenian coins were probably minted in the seventh and sixth centuries B.C., but it is known that in 561B.C., the four drachma pieces, bearing the head of the goddess Athena on one side and the Attica owl on the other, were struck by Peisistratus, the first of the tyrants. These coins were called "Laurian owls" and became the standard trade currency of the Aegean world. Hence,

Foundations for a new flotation mill are being built on the site of the ancient Laurium silver mines.

without the coinage made possible by Laurium silver, Athens could never have achieved world power.

Silver from the Laurium mines enabled the Greeks to turn the tide of human history. All historians cite the building of a large fleet with which the Greeks defeated the Persian fleet of Xerxes at Salamis Bay, near Athens. The money for the fleet came from the Athens treasury, which had grown rich as the result of the discovery, two years previously, of a new rich ore body.

The purchasing power of silver coinage was then much greater than it is to-day. Experts estimate that it must have been at least 50 times as great. The purchasing power of the ancient Laurium silver must have been expressed in present-day terms equivalent to a minimum of £15,000 million. This enormous wealth went into the hands of a comparatively small group of people and considering that the work was largely done by captive slave labour, it is clear that mining was highly profitable for the citizens of Athens.

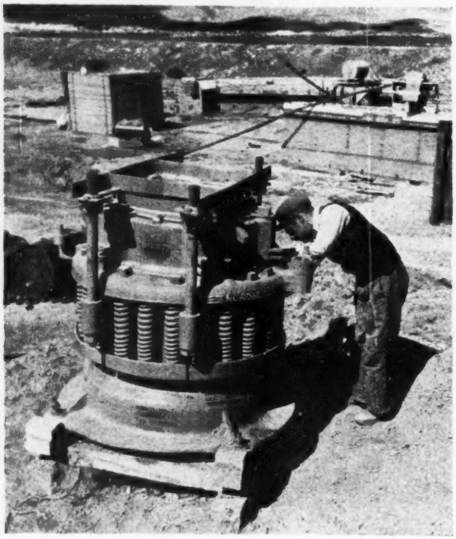
Aeschylus, the great Greek writer of tragedies in the sixth century B.C., described the mines as "a fountain running silver, a treasure of the land." Herodotus, and later Aristotle, both attribute the great prospertiy of Athens to

new discoveries at the silver mines. As the rich ores became exhausted, Athens declined as a world power. But the cultural achievements which grew from the material foundation of the Laurium mines remained for posterity.

For many centuries the mines were neither worked nor maintained; shafts and tunnels caved in, and some of the pit mouths were entirely obliterated. Only slag heaps recalled the golden age.

In 1873, an enterprising group saw possibilities in the recovery of the metals left in the mine dumps, and the Société des Usines de Laurium (Greek Laurium) was formed. Mining and smelting were started again. A few years later a French company started underground mining, but Greek Laurium confined its activities to the old mine dumps. From then until the 1914-18 war, 6,000,000 tons of mine waste and tailings were reclaimed and re-treated by Greek Laurium.

The annual production averaged 170,000 tons of lead ore and 36,000 tons of zinc. The amount of silver is not



A Greek mining mechanic examining a newly unpacked American ore-crusher, purchased with Marshall Plan funds.

known. By 1915, the richest and most accessible dumps had been used up, and annual production dropped to 50,000 tons of lead ore and 16,000 tons of zinc. Operations continued until 1916, when the smelting plant was closed because of lack of coke. Some activity started again in 1927, but was abandoned in 1931 because of the low price of lead. Since then, until Mediterranean Mines Inc. became interested, the mines were again deserted.

The American company owns most of the available shares of, and, in addition, has leased all properties owned by, Greek Laurium. These properties are subject to Greek mining laws, but there is no Government participation.

For Greek and European recovery, the new project is important, because it will increase exports of metals to other Marshall Plan countries. The plant is also expected to help in the development of other nearby mining property, where deposits are not large enough to warrant the erection of another plant but close enough so that ore can be taken to the Greek Laurium plant.

Should the planned exploration of the area reveal new and rich bodies of minerals, the economy of Greece would be materially assisted.

REVIEWS

The Northern Miner Annual Review.—*Published by* The Northern Miner, 122, *Richmond Street West, Toronto,* 1, *Canada.* (*Price* 15*c.*)

Canada's mining output this year will top all previous records with a valuation of more than one billion dollars, *The Northern Miner* estimates in its *Annual Review* number, now published.

Almost every mineral of importance will share in the increase. Outstanding are the "Big Four" war metals, copper, nickel, lead and zinc, all of which are now in short supply at prices well above those of 1949. But also up are asbestos, with tonnage almost doubled, oil, which now shows proven reserves of more than a billion barrels, and which will not be in full production stride until next spring; cement, making a new all-time record under the stimulus of a nation-wide building boom; magnesium, which many people believe is the coming light-weight champion of metals; coal, with greater production in Alberta and Nova Scotia, its major sources; gold, up by $20,000,000 in spite of its handicap of rising costs and a fixed selling price; and many others.

Just as significant as production is the upward trend of mineral consumption. This country is no longer just a provider of raw materials for others to process, *The Northern Miner* points out. Coming out of World War II with a great industrial machine ready for the needs of peace or war, Canada during the past five years has prospered as never before, consuming its own raw materials at rates undreamed of in the threadbare 'thirties. Domestic consumption of aluminium this year is six times that of 1938; copper and lead, more than double; nickel, zinc and silver, about triple.

Mining exploration and development have had a good year, too, with emphasis placed on base and industrial metals. Gold mining has not been neglected, but that industry is going through awkward times, as is also the search for uranium. Highlights of base metal development this year have been the big expansion in Sudbury nickel-copper, the establishment of Quemont as a major profit-maker, the approach of Gaspe Copper and Sherritt Gordon's Lynn Lake toward production, and a new wave of exploration in Chibougamau. The 1950 standout in gold is probably Kerr-Addison, with life expectancy now measured in decades; and the Newlund area, where a new gold camp seems to be promised.

Looking ahead at this, the half-way mark in the 20th century, iron and titanium rate special mention. Production of iron is already substantial, but the full weight of Steep Rock and Iron Ore Company of Canada will not be felt for several years. They promise to place this country high up among the iron producers of the world, and experts anticipate that output will reach 25,000,000 tons within the next ten years. Titanium, with a modest start made this fall, promises to become a metal of top importance by 1955.

All these significant facts necessary to the understanding of the Canadian mining and metallurgical scene activities during the past year are to be found in this well presented *Annual Review*, which numbers 144 pages.

Pocket Year Book of Western Australia, 1950.—*Issued under the authority of the Hon. V. Doney, M.L.A., Chief Secretary, by R. J. Little, Government Statistician,* 1950, *Perth. Pp.*200; 3¼ *in.* x 4 *in. No price stated.*

The thirty-second issue of this useful little year book contains again a great wealth of statistical information on Western Australia, including, *inter alia,* public finance, taxation, production, prices, etc. Its appearance will be welcomed by all with interests in that part of the Dominion.

Machinery & Equipment

Grinding Machine for Tungsten Carbide Tipped Drilling Bits

Messrs. Siemens-Schuckert (Great Britain) Ltd., Faraday Works, Great West Road, Brentford, Middlesex, in collaboration with Messrs. T. S. Harrison & Sons Ltd., Heckmondwicke, have specially designed a new machine for finishing the tungsten carbide tipped drilling bits used in collieries. Apart from its general reliability as a machine tool, its main feature is that it is provided with special fixtures which ensure that the drilling bits are sharpened in the correct manner in the minimum of time, and without the use of a skilled operator.

The fixtures are designed so that the correct cutting angles are automatically obtained, hence each re-ground bit gives the same performance as a new one. The result is that each bit, compared with those ground "freehand," gives improved life between re-grinds. Moreover, as the correct angles are maintained more re-grinds per bit are obtained. Finally, the total depth drilled during the working life of each bit is very greatly increased.

The machine is built on a robust fabricated steel pedestal, inside which is suspended the driving motor, arranged to maintain the driving belts in correct tension all the time. The main spindle is carried on bearings in a casting which, together with the pedestal, gives a very rigid assembly thus ensuring a complete absence of vibration operation. The coolant tank forms part of the base, while a submerged pump, driven by a directly coupled motor, supplies the coolant at a suitable pressure to the tip of the bit as it is being ground.

The drilling bit is held rigidly in special holders, one on the left-hand side of the machine for grinding the carbide tip, and one at the right for grinding back the steel body, to give free egress of the cuttings when the bit is in use. The left-hand bit holder, for grinding the tips, is arranged so that all four cutting edges of the bit are ground at one setting. The bit is held in position by a knurled screw, which clamps the face of one of the tips to an accurately machined face; this ensures that each bit is ground at exactly the same angles throughout its life, whether it be a new one or one receiving its last possible sharpening.

The bit holder itself is of large diameter and slides axially in a housing which forms a long bearing, which entirely prevents vibration. The housing with holder can be swivelled and locked with a simple clamping screw into the positions for grinding the outer or the inner edges of the tips, while an adjustable stop ensures that the opposite tip is not touched by the wheel when the inner edges are being ground.

The holder for backing off the steel body is also of substantial size, and sliding in a long bearing. Here again, only one setting suffices for grinding the backs of both tips.

The two grinding wheels are of the cup type, each 12 in. diameter by 3 in. wide, with a deep recess. The wheel for grinding the carbide gives the best finish to the tip in the shortest time, while giving the maximum life possible of the wheel itself. A suitably graded wheel is also provided for grinding the steel body. Both wheels are adequately guarded to ensure maximum safety for the operator, and, at the same time, preventing any unnecessary spraying of the coolant.

An additional feature is the provision of a suspended pendulum weight at each side giving smooth and easy operation of each grinding fixture, which relieves the operator of strain. Moreover, no elaborate settings are involved. The bit is inserted and clamped in the holders in a moment and the subsequent grinding operation is simple and rapid.

Mazda Dustproof Fluorescent Lighting Fitting

The British Thomson-Houston Co., Ltd. has recently produced a new fitting intended for such locations as mines roadways, where flameproof equipment is not necessarily required, but where there is a need for a robust lighting to protect the fluorescent lamp and its gear. It is also suitable for installation in mills where dust is prevalent.

The Mazda Dustproof Fluorescent Lamp Fitting (Cat. No. F1131) consists of a cast aluminium alloy channel housing the gear tray, and a clear detachable "Perspex" protecting cylinder, enclosing the fluorescent lamp. The standard fitting is designed for use with a single 80w. 5 ft. fluorescent lamp, but similar units can be made to special order for use with 40w. 4ft., 40w. 2 ft., or 20w. 2 ft. lamps.

Mazda Dustproof Fluorescent Lighting Fitting.

When the fitting is to be installed in mines roadways, a cable gland is provided for use with steel-wire armoured cable. For other industrial applications, the end cap is supplied with conduit entry. Suspension is by means of two adjustable straps round the back channel.

Fifty Years of Magnetic Attraction

A Midland "Scrap-book for 1901" would most certainly include reference to the pioneers of Magnetic Separation, Messrs. Rapid Magnetic Machines Ltd., Lombard Street, Birmingham, 12, which introduced in 1901 a drum-separator, carrying a yoke of electro-magnets for extracting ferrous from non-ferrous metals in scrap-yards. The company, which now manufactures a wide range of magnetic separating and lifting equipment for almost every industry, recently celebrated its Golden Jubilee with a large gathering of employees.

During its half-century of existence, the firm has expanded year by year and in spite of the set-back of being almost totally destroyed during the blitz of 1940-41, the commencement of its second half-century sees it acknowledged as one of the leading specialists in the industrial magnetic equipment field. Nearly 50 per cent of "Rapid" products are exported. Some 80 different forms of magnetic separators, from tiny machines weighing a few pounds, for examining fine grains, to an eight-ton mammoth, which removes iron from coal, are manufactured by this company.

With the metal situation as it is to-day, Rapid magnetic equipment is more widely used than ever before in scrap-metal dumps for lifting, separating and breaking up scrap; but it is in the extraction of "tramp iron" during processing operations in industries other than the metal trades, that some of the most interesting Rapid developments have been made.

The company also manufactures Rapid magnetic lifting equipment, which is now an indispensable feature of most modern steelworks, foundries, goods yards, municipal salvage dumps, etc., and incorporates great lifting magnets, some 6 ft. in diameter and capable of picking up 45 tons of steel castings in one swoop.

Metals, Minerals and Alloys

The formulation of restrictions on the uses of metals, both primary and secondary, is the main feature occupying attention on both sides of the Atlantic. Closely associated with such restrictions are the orders fixing price ceilings, at any rate, temporarily, which are expected to have the effect of limiting United States' purchases of such metals and minerals abroad as show any disposition to climb to higher levels. The U.S. Government's idea of rolling back prices eventually does not seem to have been abandoned, at any rate, as yet, but it is generally believed that the Government would welcome an international price agreement on key metals before fixing more permanent price ceilings in the U.S. Complete allocation of all such metals before the fall seems to be the present Government plan. Earlier ideas of a wage-freeze have already had to be modified, or at least postponed; all goods and services peculiar to military needs have been exempted from the freeze, as well as the coal industry and many millions of production workers. It is now suggested that the patterns established in 1950 must be followed. President Truman has asked Congress for great increases in taxation. Trading in tin and other non-ferrous metals on the N.Y. Commodity Exchange remains suspended.

Copper.—The U.S. official prices not having varied during the period December 19-January 25, there seems no reason to expect any advance in the so-called world price in the States and, inferentially, in Great Britain. The U.S. Government has warned consumers to expect sharply reduced supplies of metals for civilian consumption during the second quarter of the year. Negotiations in Chile between leading U.S. copper interests and the Government are continuing but the snag of price ceilings will have to be negotiated before any effective agreement is possible. A French Government spokesman has contradicted the report mentioned last week that France is seeking special arrangements to secure Chilean copper. According to a Brussels correspondent of the *Neue Zuercher Zeitung*, preliminary negotiations for a loan of 150,000,000 Swiss francs to Belgium have been successfully concluded, aimed at securing Congo copper for Switzerland, where a shortage of copper is very seriously regarded.

Lead.—Mr. Wormser, vice-president of the St. Joseph Lead Co., has complained of the inconvenience of two prices for lead—17c. for domestic and 18½c. for imported lead—and suggested that either the domestic price should be free to find a natural market level or Government purchase and allocation of all necessary imports as was done during the last war. The tariff, he said, had proved no barrier to imports, which had risen to 525,000 s.tons last year and that its use as a substitute metal would increase the supply needed.

February deliveries at "official" prices were sold out before the month opened but Mexican lead, being exempted from the price ceiling, has continued in keen demand at 18½c. f.a.s. Gulf Ports. Mr. Andrew Fletcher recently announced in New York an extensive programme of expansion for the St. Joseph Lead Company, running to some $15,000,000 over the next few years.

The Ministry of Supply has fixed the price of remelted lead at £126 per ton, of cable sheathing at £124 and of other scrap lead at £117 per ton. Stocks of lead in the U.K. at the end of the year had fallen to 61,687 tons compared with 65,102 tons a month earlier. Consumption in December was 26,395 tons and for the year 328,123 tons.

Tin.—The current week has seen a fresh record in tin, with £1,440 per ton paid for spot on Monday. In the United States the price ceilings have prevented any further advance in the "grade A" quotation. Exports from Bolivia in December were heavy, rising to 4,156 tons. This brings the total for the year to 31,714 tons as compared with 34,662 tons in 1949, a decline of 2,948 tons.

The N.P.A. has issued an elaborate list of permitted tin uses, some taking effect from the beginning of the month and others from March 1. Pig tin, secondary tin and various tin-containing products will be available only for specific purposes after March 1. The maximum permitted coating of tin and terne plate is specified but perishable goods will not be interfered with; all non-defence uses have to be certified. The use of tin in the manufacture of collapsible tubes is limited though the use of aluminium is little reduced. The N.P.A. conclude that the anticipated supply of tin in the current year will fall substantially short of requirement. The present savings target is about one-third of consumption in 1950. Further restrictions on the use of tin in tinplate are foreshadowed. Government stocks of tin on December 1, are reported at 18,544 tons not including Munitions Board stock, or tin in concentrates.

Zinc.—As with copper and lead there is no change in the U.S. official prices which remain at $17.5c. The zinc trade has told Washington that there is no need for allocations for end-use controls as the cut backs in civilian consumption should result within the next two months in adequate supplies for defence orders and permitted civilian use, but apparently the authorities think otherwise. The Ministry of Supply has now fixed the price of remelted zinc at £145 per ton and of hard smelter at £135 per ton.

The Cerro de Pasco Corporation have announced that the Export-Import Bank will advance up to $20,800,000 to facilitate the production of special high-grade zinc in Peru. The programme embraces a large hydro-electric installation on the Paucartambo River, on the Eastern Andes declivity, enlarged mill at the mines and a refinery at Oroya. The whole plan is designed to produce some 70,000 s.tons of high-grade zinc per annum, but it will obviously take several years before the installations can be completed. The 1949 output was 1,337 s.tons of slab zinc.

Aluminium.—The N.P.A. has announced that the use of aluminium by manufacturers in the U.S. will be cut to 65 per cent of the average monthly consumption in the first half of 1950. The E.C.A. has announced that supplies of aluminium and zinc, urgently required for Britain's vital industries, were included in Marshall Plan approvals for December. As direct Marshall Aid approvals terminated at the end of the year any further special allocations must be sought through some other channel. Hearings before the Celler sub-committee, studying monopolies under the Department of Justice, are continuing. Last week the President of Aluminium Ltd., Mr. N. V. Davis, stated that the B.C. Power project was designed to produce eventually 1,600,000 h.p. and 500,000 h.p. in about three years. The eventual capacity of 1,600,000 h.p. should produce about 500,000 tonnes of aluminium at a cost below anything hitherto anticipated, while the smaller power delivery should produce 150,000 tonnes. Alcoa have also made a lengthy statement before the Celler sub-committee, in which they enumerate eight proposals for increasing output, of which six have already been put into effect. The largest of these was for a smelter near Skagway, with an ultimate output of 375,000 s.tons but this, apparently, has not yet been accepted by the National Security Resources Board.

Quicksilver.—The enormous increase in the price of quicksilver since the complications in Korea first developed was stated recently by a spokesman of William M. Steich and Co. to have been some 400 per cent and should not, he suggested, go any higher, as it was no longer an important strategic war material, and anticipated increases

in consumption had failed to develop, with the exception of non-recurring demands such as its employment in new chlorine installations. The United States Government had a substantial stockpile sufficient for any emergency so far as existing uses are concerned. Imports of quicksilver into the U.K. last year were also on a big scale at 4,119,097 lb. against 1,430,586 lb. in 1949. Production has generally been rising in Spain, Italy and Yugoslavia. Last year's Spanish output is reported as 1,725 tonnes and that of Italy 1,645 tonnes against 1,535 tonnes in the previous year. Italian stocks which were reported as around 1,800 tonnes before the Korean war were placed at between 600 and 800 tonnes by the end of the year. L.115,000-L.225,000 per flask was recently quoted in the Italian market for medium-sized orders.

Tungsten.—This week there has been a further rise in wolfram prices. Business has been done at 535s./545s. per unit c.i.f., though there are reports of even higher figures having been realized.

So far as the English market is concerned the situation is confused owing to the action of the authorities in Portugal, from which most of our supply is now derived. Reports that an increased export duty would be imposed have been rumoured for some little time despite contradictory statements by different government departments. It was announced, however, in Lisbon, that from Monday last a special export tax of Esc.36 per kilo had been imposed on wolfram together with an additional tax of Esc.15 per kilo on tin concentrates. Both taxes are new and additional to the already existing export duties. It was officially explained that the new tax would not hurt foreign importers as it was designed to stop the practice of speculators, witnessed in earlier booms, of applying for export licences without having the material to ship, thus rapidly exhausting the quotas of commercial agreements with countries entitled to receive Portuguese material. The Portuguese Ministry of National Economy had already explained that an earlier refusal of export licences was confined to countries having no agreement with Portugal or where these had already been exhausted. In other cases licences continued to be granted without any difficulty whatsoever. It seems probable that the Portuguese Government is now not averse from participating more actively in the profit represented by present prices, as it was stated that the Lisbon price was Esc.122 as against a suggested average production cost of Esc.60.

Gold.—The West Australian gold output in December was 46,814 f.oz., bringing the total for the year to 610,330 f.oz. as compared with 648,425 f.oz. in 1949. The output of the Kilo Moto Mines in the Congo last year is reported as 6,342.788 kilos compared with 6,394.896 kilos in 1949.

The London Metal Market

(From Our Metal Exchange Correspondent)

The trend of the tin market has been obscured during the past week by the continued uncertainty of how the new American price regulations will apply to tin, but quotations for February, March and May delivery metal are all around the same figure, which on Monday was \$1.82 per lb. Also, the Singapore market has been shut on Tuesday and Wednesday on account of holidays.

In London the market has been very firm but with a comparatively small turnover, a lot of which has been made up of deals adjusting members' positions within the three months' period. The latest figures issued for the stocks of tin in the U.K. no longer include the metal belonging to the Ministry of Supply, so as to give a true picture of the tin available to the market in this country.

The International Tin Study Group's figures for November show that for the first time the U.K. consumption is slightly above the estimated production, and this was reflected at the time by the large backwardation which developed during the second half of November and lasted well into December. The other interesting feature of the figures concerns the world consumption for 1950, which increased to such an extent that although the production was slightly higher, the over-production only amounted to around 16,000 tons against 43,000 tons in 1949. From the estimated U.S. consumption figures, it appears that almost the whole of the world increase took place in the States.

On Thursday the official close on the tin market was: Settlement price £1,450, Cash Buyers £1,450, Sellers £1,455. Three months' Buyers £1,415, Sellers £1,420. In the afternoon the market was firm. Turnover for the day was 120 tons. Approximate turnover for the week was 640 tons.

The Eastern price on Thursday morning was equivalent to £1,455 per ton c.i.f. Europe.

Iron and Steel

Coal prices up! Supplies severely reduced—those are the two disturbing developments which threaten serious repercussions throughout the entire range of British industry. Obviously the impact upon the iron and steel industry, which is one of the biggest coal consumers, will be profound. Its effects may be more immediately apparent than the consequences of the transfer of the ownership of the industry to the State due on Thursday next. It has been made plain that the Government desires to implement nationalization with the minimum amount of disturbance. Recognizing the dangers of disorganizing the industry at a time when maximum output is required for re-armament the Government has sought the co-operation of the Iron & Steel Federation and individual boards and managements after vesting date in the hope of maintaining, and if possible, increasing production and they have not asked in vain. But the coal crisis poses much more intractable problems. Already the chartering of a fleet of ships for the import of coal has prevented the normal intake of foreign ore for the furnaces and this week's announcement of the further purchase of another 1,000,000 tons of coal from U.S.A., India and Nigeria, shatters hopes of a speedy restoration of the ore traffic.

The rise in coal prices must also involve a speedy and steep advance in steel prices. One big steel company has already disclosed that their annual fuel bill will be increased by £500,000 per annum, and the advance in ore freights constitutes a much more serious financial burden. Thus it would appear that, however reluctant we may be to capitulate to inflationary pressure, one of the first tasks imposed upon the Minister of Supply after vesting date, must be to re-adjust steel prices to absorb at least a proportion of the increased cost of production.

Under existing circumstances, higher steel prices are not expected to exercise any serious effect upon the demand for steel. British steel is very much cheaper than American or Continental products and home and export markets are buoyant.

The most alarming development however is that 15 per cent cut in coal supplies which must inevitably involve an immediate and substantial fall in iron and steel production.

Coal

Last week's Ministry of Fuel provisional returns show a slight improvement in the statistical position of supplies. Compared with the previous week there was an increase of 5,000 tons in the output of deep-mined coal (from 4,216,500 tons to 4,221,500 tons) and of 6,700 tons (from 194,500 tons to 201,200 tons), in opencast, giving a combined gain on the week of 11,700 tons, but over the figures for the corresponding period last year there was the much ampler favourable margin of 134,100 (consisting of

127,000 tons of deep-mined and 7,100 tons of opencast coal). Moreover, with production more closely approximating consumption less supplies were drawn from reserves than in any other week so far this year; distributed stocks at the end of January stood at 10,455,000 tons, or only 197,000 tons less than the previous week, compared with a weekly average drain of nearly 500,000 tons during January. The cumulative total saleable output to date, however, is still showing a big gap compared with the Attlee target; for the five weeks to February 3 it amounted to 21,266,400 tons compared with 21,287,100 tons in the corresponding period in 1950—a decrease of 20,700 tons, which compares with the average weekly increase of approximately 177,000 tons in deep-mined and opencast saleable output on which the Attlee plan depended for its expansion of 3,000,000 tons in production during the first four months of the year over that for the corresponding period in 1950 to cover the country's requirements. It should be borne in mind that our current supplies now include imports from external sources as well as indigenous coals, and during the five weeks ended February 3, the arrivals from abroad are officially estimated at about 244,000 tons.

FEBRUARY 8 PRICES

COPPER

Electrolytic	£202 0 0 d/d

TIN

(See Metal Notes above for Thursday's Metal Exchange prices

LEAD

Soft foreign, duty paid	£136 0 0 d/d
Soft empire, including secondary lead ...	£136 0 0 d/d
English lead	£137 10 0 d/d
Remelted	£126 0 0 d/d

ZINC

G.O.B. spelter, foreign, duty paid ...	£151 0 0 d/d
G.O.B. spelter, domestic	£151 0 0 d/d
Electrolytic and refined zinc	£155 0 0 d/d
Hard	£135 0 0 ex depot
Remelted	£145 0 0 ex depot

ANTIMONY

English (99%) delivered, 10 cwt. and over	£325 per ton
Crude, 10 cwt. and over ...	£250 per ton

NICKEL

99.5% (home trade) ...	£406 per ton

OTHER METALS

Aluminium, £124 per ton.
Bismuth, 22s. 6d. lb.
Cadmium, 17s. 3d./18s. lb.
Chromium, 5s. 3d. lb.
Cobalt, 15s. 6d. lb.
Gold, 248s. f.oz.
Iridium, £65 oz. nom.
Magnesium, 1s. 6d. - 2s. lb. according to quantity.
Osmiridium. £35 oz. nom.
Osmium, £70 oz. nom.
Palladium, £8 10s. oz.
Palladium (scrap), £8 oz
Platinum, £27/£33 5s. nom.
Rhodium, £45 oz.
Ruthenium, £30 oz.
Quicksilver, £73 10s. nom. ex-warehouse.
Selenium, 25s. nom. per lb.
Silver (bar), 78½d. f.oz. spot and forward.
Tellurium, 14s. 4d. lb.

ORES, ALLOYS, ETC.

Bismuth	40% 11s. per lb. c.i.f. 30% 9s. 6d.
Chrome Ore—	
Rhodesian Metallurgical (lumpy)	£11 per ton c.i.f.
,, ,, (concentrates)	£11 per ton c.i.f.
,, ,, Refractory	£10 12s. per ton c.i.f.
Baluchistan Metallurgical ...	£11 11s. per ton c.i.f.
Magnesite, ground calcined ...	£26 - £27 d/d
Magnesite, Raw	£10 - £11 d/d
Manganese, Best Indian ...	(Nominal)
Molybdenite (85% basis) ...	(Nominal)
Wolfram (65%), U.K. ..	535s./545s. nom. c.i.f.
Tungsten Metal Powder (for steel manufacture) ...	34s. 3d. nom. per lb. (home)
Ferro-tungsten	32s. 3d. nom. per lb. (home)
Carbide, 4-cwt. lots	£30 18s. 9d. per ton
Ferro-manganese, home ...	£30 5s. 11d. per ton
Ferro-manganese, export ...	Nom.
Brass Wire	2s. 2¾d.
Brass Tubes, solid drawn ...	1s. 9¾d.

Mining Men and Matters

Mr. M. L. W. Allen has been appointed assistant manager to Nchanga Consolidated Copper Mines.

Mr. F. F. Considine has joined the staff of the Mines Department, Jos, Northern Nigeria.

Mr. C. W. N. Craig has joined the staff of Nanwa Gold Mines.

Mr. Daniel Daniel has resigned from the board of Amalgamated Anthracite Collieries for health reasons.

Mr. Gershon Ellenbogen has been appointed a director of Meru Tin.

Mr. Ronald C. Jewell has been appointed to the board of the Sheffield Smelting Co.

Mr. J. L. Kirkup has joined the staff of the Colonial Development Corporation at Macalder-Nyanza Mine.

Mr. A. L. Lloyd has joined the staff of Lake George Mines, Pty., Ltd.

Mr. A. M. McGrigor, Chairman of Messrs. James Finlay & Co. Ltd., has joined the Board of Directors of the National Bank of India Ltd.

Sir Wilson Smith and **Messrs. Alfred Read, M. B. Reid** and **T. S. Overy** have been appointed to the board of Powell Duffryn.

Major-General Sir Edward Spears has been appointed a director of the Bank of British West Africa.

Messrs. André Trebucq, R. E. O. Velten and **Frederick Brieley** have been appointed directors of Seville Sulphur & Copper, and Mr. A. H. Williams and Mr. O. V. G. Hoare have resigned.

Mr. W. H. Williamson has been appointed to a seat on the board of Anglo-Ecuadorian Oilfields.

Mr. John Wilson, mining lecturer at Heriot-Watt College, Edinburgh, and the University of Edinburgh, has retired after thirty years' service.

Mr. R. B. Woakes has resigned from the board of Esperanza Copper & Sulphur.

The World Metallurgical Congress will be held in Detroit, Michigan, U.S.A., from Oct. 15-19, 1951. Dr. Zay Jefferies has been appointed director-general of the Congress. All enquiries should be addressed to Mr. W. H. Eisenmann, secretary of the American Society for Metals, 7301, Euclid Avenue, Cleveland 3, Ohio, from whom a booklet outlining the activities of the congress may be obtained.

The North of England Institute of Mining & Mechanical Engineers will hold a general meeting in the Lecture Theatre of the Institute, Newcastle-upon-Tyne on Saturday, Feb. 10, at 2.30 p.m. when a paper will be submitted for reading and discussion entitled "Mechanized Room and Pillar Mining: A General Appreciation of Developments in this Country," by Mr. Haswell Alder, Mr. S. W. Potts and Mr. Arthur Walker.

N.C.B. New University Scholarships.—The National Coal Board are, for the fourth year, offering up to 100 University scholarships. Most of the awards will be made to read mining, but a few may be given to courses in mechanical and electrical engineering. A limited number of these scholarships may also be for courses in fuel technology for men who want to make a career in the coking industry, or for those who want to specialize in power generation.

The Institution of Mining and Metallurgy will hold its next Ordinary General Meeting in the Apartments of the Geological Society, Burlington House, Piccadilly, London, W.1, on Thursday, February 15, 1951, at 5 p.m., when the following two papers will be submitted for discussion: "Notes on fire prevention and fire-fighting with particular reference to the Kolar Gold Field," by Mr. H. E. Jeffery, and "Filling stopes with glacial drift at Buchans, Newfoundland," by Mr. Victor Hodgson.

The Non-Ferrous Metals Committee of the O.E.E.C. have, at the invitation of the U.S. Government appointed a Mission which will shortly leave for the United States to study techniques in the preparation and dressing of non-ferrous ores. The United Kingdom members of this Mission will be the following: Mr. R. P. Stokes of R. O. Stokes & Co., Ltd., Mr. F. H. Cothay, representing the Nigerian Chamber of Mines, Mr. F. B. Michell, of the Camborne School of Mines, Dr. F. M. Reynolds, Chemical Research Laboratory, Teddington, Mr. H. W. Hockin, Government Mines Department, Malaya.

It is understood that the Mission will assemble in Paris on March 19, will leave Le Havre on March 20, and arrive in New York on March 26, and that they will be spending about two months in the States.

The Mining Markets

(By Our Stock Exchange Correspondent)

The past week has been one of considerable activity for the Stock Exchange and more transactions have taken place than in any week in the past four years. Markings on Monday reached 16,454, the previous peak being 19,348 on January 20, 1947. Markets have been strong all round with the exception of gilt-edged which remained friendless. Official support has been withheld from this section, and institutional investors have directed their attention to the "back door" entry to this market by purchasing nationalized steel shares.

Many small investors have been selling these steel issues and switching into oils, gold, base metals and other markets. Mining shares almost without exception show good rises on the week.

Canadian dollar issues recorded substantial gains, and mostly stand at high premiums above their Montreal prices. International Nickels rose to $81, but eased off after a maintained quarterly dividend of 40c. a share had caused some disappointment.

Gold shares finished the week strongly, after a short lived reaction on Tuesday. Increased sales of gold at premium prices by Rand producers, and the fact that the United States continues to be a net exporter of gold, encouraged investors in London and Johannesburg. This radical change in the world financial balance was mentioned in this column some weeks ago. Finance houses and leading producers all benefited from the tendency.

Interest in Orange Free State issues was re-kindled, particularly in those which are nearing the production stage, such as St. Helena and Welkom. Free State Geduld jumped on news of high reef values. Many shares in this section have been greatly undervalued during the recent decline in gold shares, and a sharp reaction was to be expected.

On Monday the price of tin reached a new high level at £1,440 a ton, and although Tuesday saw quieter conditions and a fall in the price of spot metal of £5 a ton, tin shares recorded an all round improvement over the week. Both Eastern and Nigerian issues rose sharply, a reminder that high yields can still be obtained in this section by those willing to brave political risks.

Beralts had an erratic week, finishing 9d. down on balance. The shares fell sharply on the news that the Portuguese Government had imposed a special export tax wolfram. They later recovered most of their earlier losses. The new tax amounts to 36 escudos per kilo, or about £2,000 per ton of ore exported at a price of 545s. a unit; approximately one quarter of the company's gross revenue. Should the price of wolfram fall, a contingency that seems unlikely in the immediate future, Beralts present prosperous position could change considerably.

Copper shares have continued firm. The demands of re-armament programmes are causing an acute shortage of the metal. Roan Antelope reported a lower profit before taxation for the December quarter compared with the preceding three months. The figures were £1,094,000 against £1,601,000 which can be explained by the sizeable increase in stocks over the December quarter. The estimated profit for the six months to December 31 was £2,695,000 compared with £678,000 for the second half of 1949. This gives a clear indication of the flourishing state of the company's affairs. Since the restrictions placed on the price of copper in the United States, premium markets have started in Europe. While Northern Rhodesian producers sell their output at the official price ruling, due to long term contracts with the Ministry of Supply, it seems probable that Messina Transvaal have been disposing of at least a portion of their output at premium prices. Certainly there has been some strong buying of the shares during the past week.

	Price Feb. 7	+ or − on week
FINANCE		
African & European	68/9	+5/-
Anglo American Corpn.	8 1/16	+3/32
Anglo-French	26/10½	....
Anglo Transvaal Consol.	36/3	+7½d
Camp Bird	15/3	+9d
Central Mining (£1 shrs.)	46/3	....
Consolidated Goldfields	2 15/16	+7/32
Consol. Mines Selection	39/4½	+3/9
East Rand Consols	4/7½	+6d
General Mining	6¼	....
H.E. Prop	40/-	....
Henderson's Transvaal	10/3	....
Johnnies	3 13/16	+¼
Rand Mines	7⅜	....
Rand Selection	42/6	+1/10½
Union Corporation	12 5/16	+⅜
Vereeniging Estates	5 13/16	....
Writs	35/7½	+1/10½
West Wits.	2 23/32	+¼
RAND GOLD		
Blyvoors	51/10½	+7½d
Brakpan	22/9	+6d
City Deep	3 7/16	+3/32
Consol. Main Reef	2 19/32	+1/32
Crown	5 7/16	+3/16
Daggas	3 25/32	....
Dominion Reefs	3/1½	+7½d
Doornfontein	31/6	+3/6
Durban Deep	4 3/32	+⅛
E. Daggas	30/7½	+1/10½
E. Geduld ... (4/- units)	2 17/32	+1/16
E. Rand Props	3 13/16	+9/32
Geduld	7¾	....
Grootvlei	41/10½	+1/3
Libanon	19/9	+1/-
Luipaards Vlei	22/9	+1/3
Marievale	22/9	....
Modderfontein B	6/3	+3d
Modderfontein East	2½	....
New Kleinfontein	31/10½	+2/6
New Pioneer	22/9	+2/-
Randfontein	22/-	....
Robinson Deep	17/6	+6d
Rose Deep	40/-	+2/6
Simmer & Jack	8/3	+6d
Springs	13/3	+6d
Sub Nigel	4 1/16	....
Van Dyk	17/6	+1/3
Venterspost	32/6	+7½d
Vlakfontein	22/-	+6d
Vogelstruisbult	27/6	+6d
West Driefontein	5 13/32	+23/32
W. Rand Consolidated	47/6	+1/10½
Western Reefs	38/9	....

	Price Feb. 7	+ or − on week
O.F.S.		
Alpha F.S.A.	14/3	+9d
Blinkpoort	26/3	+3/9
Central Mining F.S.	5/6	+3d
Freddies	18/-	+2/3
Freddies N.	10/-	+1/3
Freddies S.	11/-	+1/7½
F.S. Geduld	3 5/16	+3/16
Geoffries	19/-	+1/3
Harmony	23/-	+2/6
Lydenburg Estates	11/9	+9d
Middle Wits	22/3	+1/9
Ofsits	48/9	+5/7½
President Brand	24/4½	+3/1½
President Steyn	18/9	+1/9
St. Helena	37/6	+1/10½
U.F.S.C. & G.	12/-	+1/3
Virginia Deb.	72	....
Virginia Ord.	13/-	+6d
Welkom	44/4½	+2/6
Western Holdings	3 7/16	+13/32
WEST AFRICAN GOLD		
Amalgamated Banket	2/3	+1½d
Ariston	8/3	+7½d
Ashanti	33/9	+1/9
Bibiani	13/3	+9d
Bremang	4/3	....
G.C. Main Reef	4/1½	+3d
G.C. Selection Trust	10/4½	+4½d
Konongo	2/4½	....
Kwahu	5/-	+3d
London & African Mng.	1/7½	+1½d
Lyndhurst Deep	1/3	+1½d
Marlu	2/4½	+1½d
Nanwa	1/3	....
Taquah & Abosso	10/3	+1/6
AUSTRALIAN GOLD		
Boulder Perseverance	4/9xd	....
Gold Mines of Kalgoorlie	16/3xd	....
Great Boulder Prop	7/6	−4½d
Great Western Consol.	1/6	....
Lake View and Star	22/7½	+7½d
Mount Morgan	23/-	+1/6
North Kalgurli	19/3	....
Paringa	1/-	....
Sons of Gwalia	13/3	....
South Kalgurli	10/6	+6d
Western Mining	7/9	+3d
Wiluna	11/3	....
MISCELLANEOUS GOLD		
Cam and Motor	34/4½	....
Champion Reef	9/9	....
Falcon Mines	10/7½	+6d
Globe & Phoenix	24/6	+9d

	Price Feb. 7	+ or − on week
MISCELLANEOUS GOLD (contd		
G.F. Rhodesian	9/1½	+4½d
London & Rhodesian	5/7½	....
Motapa	3/9	....
Mysore	6/4½	+1½d
New Guinea	1/-	....
Nundydroog	7/6	....
Ooregum	3/6	+6d
Oroville	11/7½xd	+3d
St. John d'El Rey	31/3	....
Zams	39/-	+1/3
DIAMONDS		
Anglo American Inv.	3 13/32 xd	+3/32
Casts	37/9	+3d
Cons. Diam. of S.W.A.	3¼	+1/16
De Beers Defd. Bearer	59/-	+2/6
De Beers Pfd. Bearer	17¾	+⅜
COPPER		
Chartered	73/3	+3/9
Indian Copper	5/-	−1½d
Messina	115/3	+4/9
Nchanga	6 13/16	+¼
Rhod. Anglo-American	61/9	+2/6
Rhodesian Selection	58/3	+1/9
Rhokana	22 5/16	+1/16
Rio Tinto	25¼	+¼
Roan Antelope	20/6	−1½d
Selection Trust	48/9	+1/3
Tanks	48/3	+3/-
Tharsis Sulphur Br.	56/3	....
TIN (Eastern)		
Anglo-Burma	4/9	....
Ayer Hitam	24/-	+1/6
Bangrin	34/-	+4/3
Gopeng	13/9	+1/7½
Hongkong	15/10½	+10½d
Ipoh	36/3	+3/9
Kamunting	11/10½	+7½d
Kepong Dredging	14/-	+1/5½
Kinta Tin Mines	16/4½	+1/4½
Kramat Pulai	5/-	+6d
Malayan Dredging	23/9	+1/-
Pahang	15/3	+1/-
Pengkalen	11/6	+1/3
Petaling	12/3	+3d
Rambutan	21/6	+2/1½
Siamese Tin	20/6	+1/9
Southern Kinta	15/1½	+10½d
S. Malayan	28/9	+1/9
S. Tronoh	25/6	+2/3
Sungei Kinta	16/3	+1/3
Tekka Taiping	12/9	+10½d
Tronoh	31/9	+3/9

	Price Feb. 7	+ or − on week
TIN (Nigerian and Miscellaneous)		
Amalgamated Tin	13/4½	+4½d
Beralt Tin	27/9	−9d
Bisichi	4/9	+1½d
British Tin Inv.	18/1½	+10½d
Ex-Lands Nigeria	8/4½	+6d
Geevor Tin	19/9	+2/3
Gold & Base Metal	/3	+6d
Jantar Nigeria	8/9	+1/4½
Jos Tin Area	11/9	+9d
Kaduna Prospectors	6/3	+3d
Kaduna Syndicate	13/9	+1/6
London Tin	5/4½	1½d
Ribon Valley	1/4½	+1¼d
United Tin	2/1½	+4½d
SILVER, LEAD, ZINC		
Broken Hill South	55/-	+9d
Burma Corporation	4/6	+1½d
Consol. Zinc	33/9	+1/-
Lake George	27/-	+2/3
Mining Trust	5/1½	+1½d
Mount Isa	39/4½	+1/1½
New Broken Hill	32/6	+6d
North Broken Hill	76/-	+1/9
Rhodesian Broken Hill	2[illegible]/7½	+1/3
San Francisco Mines	6[illegible]/4½	+1/10½
Trepca	3/7½	+1½d
MISCELLANEOUS BASE METALS & COAL		
Amal. Collieries of S.A.	2 11/16	....
Associated Manganese	77/6	+6d
Chinese Engineering	2/6	....
C.P. Manganese	56/-	+5/1½
Natal Navigation	5¾	+1/16
Wankie	22/3	+6d
Witbank Colliery	4 1/16	....
CANADIAN MINES		
Dome	$31	−1
Hudson Bay Mining	$120	+3
International Nickel	$77	+1⅜
Mining Corpn. of Canada	£6 13/16	+1/16
Noranda	$155	+9
Quemont	£10½	+¼
OIL		
Anglo-Iranian	5⅜	−1/16
Apex	47/6	+2/6
Attock	25/-	....
Burmah	59/9	+2/6
Canadian Eagle Bearer	31/7½	+7½d
Mexican Eagle	23/6	+1/4½
Shell	4 1/16	+3/32
Trinidad Leasehold	27/-	+1/3
T.P.D.	30/-	+6d
Ultramar	30/7½	−4½d

Rand and O.F.S. December Quarterlies

Mine Developments, Profits and Drilling Results

Many prominent features presented themselves in the December quarterly reports issued by the Rand gold mining companies and those of the Orange Free State. Coupled with development news, profit figures and the usual end-year ore reserve estimates, was the amount of premium revenue received by the mines. It was the highest for any quarter of the year, £839,770, and brought the total received by the mines from that source during 1950 to £2,123,547, out of working profits of £51,534,386. The December quarterly profits of the mines, £11,974,158, were the lowest of any three-monthly period of the year and £2,071,935 below those for the same period of 1949, when the impact of devaluation on expenses had not had time to get under way.

After the passing of more than 15 months since the realignment of currencies, the gold mining companies are now able to look ahead more clearly. It is appreciated that premium sales remain a fluctuating source of additional revenue and that the white miners' wages claim is still in a fluid state. Maybe the Unions will succeed with, at least, some of the claims on behalf of their members, which will again increase working costs.

CENTRAL MINING—RAND MINES GROUP

On the whole, the reports for the December, 1950 quarter of the Central Mining producers showed up favourably. The margins between working profits and distributions were seen to have narrowed since June of last year, while production on three of the group's mines was affected by accidents or strikes. *City Deep* had the pressure burst in the western area in November; *Consolidated Main Reef* had its hoist at No. 3 shaft out of commission; and *Rose Deep* experienced a strike which affected underground work. On this latter, 10,042 ft. of development was done compared with 12,802 in the September quarter but 39 per cent of the 8,380 ft. sampled was payable against 36 per cent previously.

More developments were done on *Blyvoor*—10,042 ft.—and of the 5,315 ft. sampled, 97 per cent was payable, value 562 in.-dwt. Quarterly profit was £1,761,452 against £1,747,763 in September three months. Ore milled was stepped up to 263,000 tons and the yield of gold was 189,298 oz. or 14.395 dwt. per ton. Costs were a trifle below those of previous quarters at 45s. 5d.; profit per ton was 133s. 11d. against 137s. 7d.

Crown Mines and *City Deep* made a consistent showing with development, while pay ratio of the footage sampled was similar to that of the previous quarter. Increased work was done by *Durban Deep*—18,704 ft.—and of the 10,500 ft. sampled, 69 per cent proved payable, value 328 in.-dwt.

Although as a result of special efforts *Consolidated Main Reef* maintained tonnage during the December quarter, the hoist accident reflected itself in underground work; only 11,132 ft. of development was done against 15,551, but payability of the 8,410 ft. sampled was up to the previous quarter's percentage—45. Profit was £133,543 against £187,728.

East Rand Proprietary did not accomplish so much work—11,047 ft. against 13,174 ft.; footage sampled, 4,380 ft. gave a pay ratio of 59 per cent against the previous quarter's figure of 45 per cent. while the value was up at 382 in.-dwt. Profit dropped to £501,144 against £589,138.

ANGLO AMERICAN CORPORATION

Profit figures of the working mines belonging to the Anglo American Corporation did not show any startling difference from those for the September quarter. The useful innovation by the company in giving estimated net working profits for the whole of the year is definitely in shareholders' interests. The companies' ore reserves at the end of 1950 differ widely from those at the close of 1949. *Brakpan's* aggregation has dropped by nearly 1,000,000 tons. Developments were satisfactory; footage accomplished was 18,469 ft. and of the 14,175 ft. sampled, 23 per cent proved payable of 437 in.-dwt. Profit was down at £214,153.

Springs Mines increased its reserves by 48,100 tons to 4,042,500 tons, value 4.32 dwt. Payability jumped from 29.4 per cent in the previous quarter to 37 per cent and values also advanced from 368 in.-dwt. With the mine's stoping width of 44 in., this postulates ore yielding over 10 dwt. per ton. Pay ratio of Kimberley reef was again low—19 per cent against 18 the previous quarter. Profit of £151,657 went against £166,934.

More underground work was done by *South African Lands*—19,721 ft., and of the 13,980 ft. sampled, 41 per cent was payable. Profit increased to £232,397. Ore reserves were raised by 275,700 tons to 3,022,200 or about 2¼ years' feed for the mill.

Daggafontein's footage was rather less but of the 3,660 ft. sampled, 42 per cent proved payable, value 216 in.-dwt. Of the 6,995 ft. sampled on Kimberley reef, 44 per cent was payable of 364 in.-dwt. A slight decrease was registered in ore reserves at 14,608,400 tons, value 5.78 dwt. Profit was £1,411,125—a decrease of £27,000. *East Daggafontein* did rather more work on the Kimberley reef and of the 6,750 ft. sampled, 33 per cent was payable, the in.-dwt. figure rising to 472 against 374. Profit was £273,621.

CONSOLIDATED GOLD FIELDS

Development results of the mines under the technical control of the Consolidated Gold Fields made a good showing generally.

Further evidence of the richness of the Carbon Leader reef was indicated by *West Driefontein*. Work disclosed 100 per cent payability on the No. 2 drive east from Blyvoor. Of the 160 ft. of reef sampled, values showed an average of 96.3 dwt. over 11.4 in. or 1,098 in.-dwt. The drive was stopped at the end of November. Up to that date from the time the boundary was crossed, reef sampled was 2,000 ft., all of which proved payable, averaging 67.3 dwt. over 11.6 in. or 781 in.-dwt. Crosscutting to the Carbon Leader horizon on the No. 12 level at No. 2 shaft was started during December.

Doornfontein's quarterly added nothing to the details of the reef strike in the Annan shaft, as originally announced early in November last.

More work was done by *Libanon*—16,982 ft. and of the 5,065 ft. sampled (Main reef) 54 per cent was payable, value 373 in.-dwt. 420 ft. of the Contact reef was also sampled, of which 39 per cent was payable, averaging 4.4 dwt. Profit was up at £135,717. The fourth Western Rand subsidiary of the group—*Venterspost*—developed 15,177 ft. and sampled 6,200 ft., of which 65 per cent (same) was payable, giving 366 in.-dwt.

Of the other producers, the frequent falls of ground in the older sections of *Robinson Deep* did not affect development, but some of the ore reserve tonnage has become unavailable and the total is 443,000 tons down at 3,384,000 tons, value 3.8 dwt. There was also a big decrease in Simmer & Jack's reserves—3,005,000 of 3.8 dwt. against 3,725,000.

A smaller footage was accomplished on both *Sub Nigel* and *Vogelstruisbult;* the former's pay ratio was about the same—33 per cent, but of the 8,375 ft. sampled by "Vogels," only 37 per cent proved payable, value 267 in-dwt.

UNION CORPORATION

There were several striking features in the quarterlies of the mines under the aegis of Union Corporation. A better showing was made by *Marievale;* the footage on the Kimberley reef was slightly more than previously, 3,149 ft. and of the 1,630 ft. sampled, the pay percentage was 26 against 7 in the September three months. The mine also registered an increase of 200,000 tons in ore reserves at 3,000,000 of 5.6 dwt.

A big increase in ore reserves was also registered by *Grootvlei*—1,000,000 tons up. This gives the mine claim to having the largest ore aggregation of all the producers on the Rand. The figure is now 15,000,000 of 4.6 dwt., equal to nearly seven years mill feed. Developments last quarter were satisfactory and the pay percentage of the 11,260 ft. sampled was 47, value 237 in.-dwt. *East Geduld's* development suffered; only 2,940 ft. were opened up and of the 1,560 ft. sampled, only 46 per cent (against 70 per cent in September quarter) were payable, value 370 in.-dwt.

Van Dyk's quarterly statement disclosed the initiation of development from the new No. 5 shaft sunk to open up the southern section of the property. No payable values were struck but it has since been announced that in the 48 level west drive the last 100 ft. averaged 14 dwt. per ton over 9 in., equivalent to 126 in.-dwt.

JOHNNIES GROUP

It was not surprising to learn that the new ore reserve estimated at end December last for the Rand producers in the Johannesburg Consolidated group all showed declines. Some of the mines have made history but they are now showing signs of old age, and while still producing and may continue to do so, judging from present indications, output and profit margins will be on a gradually declining scale.

Randfontein is the most prominent member and still gives a good account of developments. For the December quarter they were rather lower than in the previous three months, and of the 14,175 ft. sampled, 29 per cent proved payable with a value of 238 in.-dwt. Ore reserves decreased by 200,000 tons to 5,550,000 of 2.7 dwt. Profit last quarter was £165,475 against £174,671.

The old *Government Areas'* ore reserves are down by 490,000 tons to 8,090,000 tons of 3 dwt. Of the 13,460 ft. sampled last quarter, 59 per cent proved payable, value 225 in.-dwt. Profit was £173,634 against £198,922. Only a small amount of work was done on *New State Areas* but the pay percentage of the 915 ft. sampled was 52 and value 196 in.-dwt.

The premium obtained from gold sold "for industrial and artistic purposes" added substantial amounts to both Government Areas and Randfontein's revenue: the latter netted in £35,905 while Government Areas amount was £27,037.

GENERAL MINING—ANGLO TRANSVAAL

Operating results of the two mines controlled by General Mining last quarter were good. *West Rand's* developments gave 67 per cent payability and average value of 250 in.-dwt. Work in connection with the erection of new 40,000-tons-per-month reduction plant to handle ore from the Bird reef group of reefs has started. The cost, £700,000, is to be financed from profits over the next three years. The benefits of the uranium interests of the company will produce approximately 9d. to 1s. per share in dividends, but here again, the plant will not come into production for another three years. Mine's ore reserves are 10,047,000 tons, value 3.5 dwt.

The other member of the group, *South Roodepoort,* which was taken over from Transvaal Mining and Finance in July, 1950, has just over one million tons reserve ore. Developments last quarter gave 51 per cent payability.

The prosperous producer belonging to Anglo Transvaal —*Rand Leases*—announced a slightly lower working profit of £295,508 but underground work was satisfactory. Four reef horizons are being worked and on the Main reef last quarter, pay percentage was 71 against 74 the previous three months; average value being about the same, 242 in.-dwt.

O.F.S. DEVELOPING MINES

Following the custom introduced generally last year, the groups give up-to-date information of work done on mines in the Orange Free State being brought to fruition.

Compared with the two previous quarters, the *St. Helena,* under the technical control of Union Corporation, showed a marked recovery in footage, and of the 1,690 ft. sampled on Basal reef, 1,105 ft. or 65 per cent proved payable, with an average of 15.7 dwt. gold per ton over 24 in., or 377 in.-dwt. In addition, 3,397 ft. of station cutting was accomplished.

At *Welkom,* which is being brought to the production stage by the Anglo American Corporation, a total of 6,643 ft. of development was done during the quarter from both shafts. Footage driven on the Basal reef on the 27/50 level amounted to 194 ft.—the whole of which gave an average of 20.5 dwt. over 20.66 in. or 424 in.-dwt. The proportion which was wholly payable amounted to 69 per cent.

Of "Anglos" other Free State mines, progress at *Western Holdings* was made in sinking both the No. 1 and No. 2 shafts. Work in connection with the reduction plant went ahead and a start was made on the foundations for the Tube Milling and other plant. Drilling operations were started on *Doornkom,* the company's area south of Vaal River.

At both *President Brand* and *President Steyn,* shaft sinking continued together with work in connection with winding plant and machinery and permanent headgears. Preliminary work was started at the *Free State Geduld* mines on the foundation for the reduction plant. Subsequent to the issue of the quarterly, the company has announced Basal reef intersection in a borehole on farm Mijannie 166 at 4,829 ft., giving average assay of 349.4 dwt. over a true width of 5 in., equivalent to 1,747 in.-dwt.

Work at "Johnnies," O.F.S. subsidiaries — *Freddies North* and *Freddies South*—made good progress. At the latter company's No. 2 shaft, the advance for the quarter was 315 ft., but as Freddies North No. 2 shaft was flooded in October, sinking for the quarter was only 28 ft. However, the depth is now 3,112 ft. Water-bearing fissures have retarded progress. The parent company—Free State Development and Investment—continued to carry out drilling on five farms.

In the Anglo Transvaal quarterly it was announced by *Virginia Gold* that progress was made with both No. 1 and 2 shafts and that No. 3 shaft was started and sunk 61 ft. At *Merriespruit,* work in connection with the two shafts went forward, and it was subsequently announced that shaft-sinking record was broken in January, when the No. 1 was advanced by 300 ft.

The most interesting borehole news in General Mining's subsidiary—"Geoffries" December quarterly, was the progress made in VDH4a on farm *Van den Heeversrust,* in the area to the north-west of Odendaalsrus. The hole was 5,072 ft. deep at the end of December; it is being put down to get fresh information concerning the upper reefs in this region as well as the Basal and Leader reefs.

Union Free State Coal & Gold, now in the Central Mining group, reported the incorporation of the Harmony Gold Mining Company and work done in connection with No. 3 shaft sinking.

Company News & Views

British Guiana Consolidated's Development Scheme

British Guiana Consolidated Goldfields was incorporated as a public company in 1936 to acquire mining rights and conduct dredging operations over certain gold-bearing areas in the interior of British Guiana, amounting to some 150,000 acres situated on the rivers Essiquibo, Konawaruk, Mahdia and Potaro. In 1948, when the Potaro dredging scheme was planned as the first stage of a more extensive development plan, the company made an arrangement with the Colonial Development Corporation whereby the Corporation loaned the company the sum of £205,371 to carry out this initial stage of development. Since that time, however, the rise in capital and working costs has absorbed this sum, and the directors felt that if the further development of the company's areas was not to be seriously hampered and its profit-earning capacity restricted, the second stage of their development scheme should now be undertaken which would enable them to spread their overhead costs over the greater output expected.

Simply, the plan is to complete the lower Potaro river programme which represents the first stage of the development programme; secondly, to purchase and install a new dredge and the power equipment required for development of the Konawaruk river project and finally to carry out the necessary prospecting in other areas in preparation for the third stage of development.

To assist the company in carrying out this programme, the Colonial Development Corporation have agreed to advance the sum of £135,000 and, in principle, further sums up to £472,742 on the security of a new debenture redeemable over ten years, and ranking pari passu with the existing debenture charged against the loan under the 1948 agreement from the Corporation. While the interest payable on the latter debenture amounted to 3¾ per cent per annum up to December 31, 1951, and 4¾ per cent per annum thereafter, the new debenture will carry interest at the rate of 6 per cent per annum. A further sum of £89,257 will be raised by the company by the issue at par of 892,575 Ordinary shares of 2s. each bringing the total of fresh funds raised to £562,000—the amount estimated to complete the scheme.

One half of these shares will be allotted to the Colonial Development Corporation together with any of the remaining 446,288 shares not subscribed for by the holders of the existing "A" shares. In consideration of this loan the Corporation is to have the right of voting at all general meetings of the company so long as any of the principle monies remain outstanding. On a show of hands the Corporation will be entitled to one vote and on a poll, to ten votes to every pound of principal oustanding. On completion of these arrangements, the total issued loan and share capital of the company will amount to £972,742, made up as between £294,629 share capital and £678,113 loan capital. £400,000 of this money will be issued for the development of the Konawaruk river scheme, representing the second stage of the present development programme, and which may eventually lead to a third stage. This final development, however, cannot be planned until the completion of the new prospecting programme gives the necessary data.

The directors estimate that the carrying out of the first two stages would, on the present price of gold, produce a net annual revenue of £54,000 after making ample provision for depreciation, amortization and debenture redemption, and that there should be a balance of £16,000 after providing interest on the loan capital, or an amount equivalent to 5½ per cent on the total proposed "A" Ordinary share capital of £294,628. Furthermore, profits available to shareholders will rise substantially, the directors state, as debenture redemption progresses.

These profit figures are based on estimated ore reserves of the lower Potaro and Konawaruk river areas, which together have been computed at 41,000,000 cu. yd. of dredgeable ground containing 294,000 bullion ounces of gold, and the board estimates that the combined annual throughput from these two areas alone should be approximately 3,500,000 cu. yd.

For the year ended July 31, 1950, gross revenue declined to £74,518 compared with £83,771 in 1949. Operating and administrative expenses were much the same as for the previous year, but depreciation almost doubled at £5,066 (£2,700), amortization of property and development amounting to £3,163 (£1,995) was also higher, and gross loan interest payable was recorded at £4,404 compared with £2,152 in 1949. The net result was that working profit dropped to £9,395 against £20,796. From the £10,689 (£38,040) available, the dividend payment of 4 per cent (same) absorbed £4,518 and the remainder was carried forward.

Inco Nickel Deliveries Break Peace-time Records

During 1950, the receipts of the International Nickel Company of Canada from sales of nickel, copper, platinum and other products for the year 1950, amounted to $228,000,000, which compares with $182,806,452 for 1949, while deliveries of nickel in all forms in 1950 were 256,000,000 lb. compared with 209,292,257 lb. for 1949, constituting a record for any peace-time year.

This record volume was made possible by increasing production and drawing on the company's reserve stocks of accumulated nickel and, it may be said, necessary, to meet the military requirements of Canada, United States and the United Kingdom.

It is further stated in the preliminary report that the company expects nickel output to be even larger in 1951 and that, barring unforeseen interruptions, the company expects to complete by 1953 its programme of full conversion from surface to underground mining which has absorbed the major portion of its $100,000,000 in capital expenditure over the past ten years. When this vast undertaking is completed, the company's underground mining operation will be unrivalled in size by that attained by any non-ferrous base metal mining operation in the world.

The new development plan will not interrupt the company's current nickel production.

Falcon's December Quarterly Results

Commenting on the quarterly report for the year ended December 31, 1950, of Falcon Mines, in our issue of January 26, 1951, it was stated that continuous milling operations at the rate of some 2,500 tons per month were in progress. This production was achieved by a small pilot plant which had been erected by the company to treat ore from the Dalny section until such time as the permanent reduction works are completed. This reduction plant will have an initial milling capacity of 12,000 tons of ore per month.

Rand Mine Returns for January

The Kaffir outputs for the first month of the current year made a mixed showing; there was no uniform trend in the unit costs factor and, judging from the yield of gold, the grade of ore was not materially altered. Of the 43 producers announcing returns, 28 dealt with larger tonnages, 10 milled less and five the same as in December. Increased profits were announced by 20 mines, while those of 23 were lower. Costs on 23 were lower; on 16 they were higher and four producers worked on the same figure as in December.

Very divided results were announced by the Central Mining subsidiaries. Blyvoor established another record in tonnage and profit. The output of City Deep was disappointing; the drop of 4,000 tons in throughput and 2s. 1d. rise in costs, resulted in the profit being scaled down by nearly £9,000. Although East Rand Props costs were 4d. per ton higher at 33s. 8d., profit increased by £7,000; it resulted from higher grade ore being milled as the tonnage was the same as for the previous month. Higher tonnage with 7d. per ton drop in costs resulted in Transvaal Gold's profit being the best since June of last year.

The Gold Fields group distinguished itself by announcing higher tonnages and profits for all its mines, while costs on each were lower. Libanon's profit was almost £10,000 higher than for the previous month. Robinson Deep showed further signs of recovering from the underground fire which occurred in November; costs were 2s. down at 35s. 8d. and profit increased by £4,500.

Of the Anglo American producers, Daggafontein was the only one to register a drop in costs but a lower tonnage was put through the mill and profit was £20,000 less than in December. Springs costs were 5d. per ton up at 26s. 11d. and profit £2,500 down. Lower tonnage and an increase in costs resulted in Western Reef's profit showing a set-back. East "Dagga" and S.A. Lands worked for the same figure of costs as in December—27s. 10d. and 29s. 1d. respectively.

Larger tonnages were dealt with by all the members under the technical control of the Union Corporation, Grootvlei's throughput equalled the high record established last May. Although Van Dyk dealt with a larger tonnage and costs were down, profit was £4,400 lower. There was reported to be an improvement during the month in the development from No. 5 shaft.

Operations of the "Johnnies" producers resulted in profits very similar to those for December. Costs on all the mines were lower with the exception of those of New State Areas. Rand Leases belonging to Anglo Transvaal announced a slightly lower profit. West Rand's return was rather disappointing showing lower tonnage and profit with increased costs, but the other member under the aegis of General Mining, S. Roodepoort worked at a lower figure of costs and announced a higher profit.

The January returns for the Rand Mine producers are given below:

Blyvoor.—91,000 tons yielded 64,413 oz.; profit £596,201.
Brakpan.—114,000 tons yielded 21,377 oz.; profit £65,794.
City Deep.—159,000 tons yielded 33,845 oz.; profit £98,259.
Consol M.R.—178,000 tons yielded 24,571 oz.; profit £51,257.
Crown.—266,000 tons yielded 47,250 oz.; profit £134,626.
Daggafontein.—228,000 tons yielded 57,038 oz.; profit £452,897.
Durban Roodepoort.—180,000 tons yielded 30,571 oz.; profit £107,827.
East Champ D'or.—33,000 tons yielded £58,093; profit £11,191.
East Dagga.—98,000 tons yielded 18,180 oz.; profit £89,396.
East Geduld.—143,000 tons yielded 42,906 oz.; profit £348,757.
E. Rand Prop.—211,000 tons yielded 42,624 oz.; profit £175,118.
Geduld.—108,000 tons yielded 16,104 oz.; profit £52,359.
Govt. Areas.—226,000 tons yielded £388,065; profit £60,430.
Grootvlei.—200,000 tons yielded 45,005 oz.; profit £316,289.
Libanon.—86,000 tons yielded 15,738 oz.; profit £52,801.
Luipaards Vlei.—103,000 tons yielded 191,161 oz.; profit £68,418.
Marievale.—62,000 tons yielded 15,500 oz.; profit £78,691.
Modder "B".—55,000 tons yielded 6,300 oz.; profit £9,700.
Modder Deep.—8,000 tons yielded 1,043 oz.; profit £187. £13,082 revenue from clean-up operations.
Modder East.—124,000 tons yielded 14,624 oz.; profit £47,166.
New Klerksdorp.—8,170 tons yielded £12,105; profit £1,200.
New Modder.—23,500 tons yielded 2,668 oz.; profit £2,009.
New State.—60,000 tons yielded £98,880; profit £5,002.
Nigel.—34,500 tons yielded 4,584 oz.; profit £2,982.
Randfontein.—345,000 tons yielded £502,937; profit £58,836.
Rand Leases.—179,000 tons yielded £360,318; profit £93,080.
Rietfontein.—28,000 tons yielded 6,180 oz.; profit £32,879.
Robinson.—112,000 tons yielded 17,668 oz.; profit £20,105.
Rose Deep.—82,000 tons yielded 11,833 oz.; profit £25,146.
Simmer & Jack.—126,000 tons yielded 20,049 oz.; profit £35,232.
S.A. Lands.—111,000 tons yielded 19,364 oz.; profit £79,297.
South Roodepoort.—28,000 tons yielded 6,270 oz.; profit £23,380.
Spaarwater.—10,600 tons yielded 2,411 oz.;
Springs.—170,000 tons yielded 22,307 oz.; profit £47,964.
Sub Nigel.—69,000 tons yielded 25,471 oz.; profit £160,198.
Transvaal Gold.—30,000 tons yielded 5,308 oz.; profit £4,032.
Van Dyk.—103,000 tons yielded 14,928 oz.; profit £17,936.
Venterspost.—110,000 tons yielded 22,991 oz.; profit £100,653.
Village Main Reef.—35,000 tons yielded £66,267; profit £19,304.
Vlakfontein.—35,500 tons yielded 13,420 oz.; profit £78,015.
Vogelstruisbult.—77,000 tons yielded 19,038 oz.; profit £85,093.
Welgedacht.—34,000 tons yielded 4,071 oz.; profit £4,527.
West Rand Cons.—203,000 tons yielded 32,481 oz.; profit £152,912.
Western Reefs.—91,000 tons yielded 20,937 oz.; profit £112,540.
Wit. Gold.—60,000 tons yielded £84,037; profit £6,066.
Wit. Nigel.—10,000 tons yielded £32,287; profit £1,696.

JOHANNESBURG CONSOLIDATED INVESTMENT CO., LTD.

(Incorporated in the Union of South Africa)

MINING COMPANIES' REPORTS FOR QUARTER ENDED DECEMBER 31, 1950

GENERAL REMARKS.—The revenue from gold has been calculated on the basis of gold at 248s. 3d. per f.oz. In determining the payable development footage, gold has been taken at 248s. 3d. per f.oz. The development figures are the actual results of the sampling of development work on reef; no allowance has been made for modifications which may be necessary when computing the ore reserves.

6, Lothbury, London, E.C.2. February 5, 1951.

The East Champ D'Or Gold Mining Co. Ltd.

Issued Capital £259,875

Crushed 98,000 tons; yielding 14,184 f.oz. gold.

	£	Per ton crushed s. d.	Per f.oz. gold produced s. d.
Revenue from Gold	176,065	35 11	
Working Costs	143,212	29 3	201 11
	32,853	6 8	
Sundry Revenue	756		
Profit for Quarter	£33,609		

In addition to the above, £4,150 accrued during the quarter in respect of increased revenue from sales of gold at enhanced prices.

Taxation for the quarter is estimated at £13,339.

The expenditure on Capital Account *amounted to £93.*

Dividend No. 28 of 15 per cent (4½d. per 2s. 6d. share) has been declared in Union of South Africa Currency, payable to shareholders registered at December 30, 1950.

The Development Footage sampled totalled 820 ft., *and gave the following* results: Payable, 670 ft., having an average value of 8.1 dwt. over 28 in. Unpayable, 150 ft., having an average value of 2.4 dwt. over 34 in.

The Ore Reserves at the end of the year were estimated to amount to 486,000 tons, with an average value of 3.5 dwt. over a stoping width of 46 in.

Government Gold Mining Areas (Modderfontein) Consolidated Ltd.

Issued Capital £1,400,000

Crushed 694,000 tons; yielding 96,235 f.oz. gold.

	£	Per ton crushed s. d.	Per f.oz. gold produced s. d.
Revenue from Gold	1,194,515	34 5	
Working Costs	1,020,881	29 5	212 2
	173,634	5 0	
Sundry Revenue	17,926		
Profit for Quarter	191,560		

In addition to the above, £27,037 accrued during the quarter in respect of increased revenue from sales of gold at enhanced prices.

The Government's share of profits for the quarter is estimated at £51,214.

The expenditure on Capital Account amounted to £775.

Dividend No. 67 of 22½ per cent (1s. 1½d. per 5s. share) has been declared in Union of South Africa Currency, payable to shareholders registered at December 30, 1950.

The Development Footage sampled totalled 13,460 ft., and gave the following results: Payable, 7,930 ft., having an average value of 4.6 dwt. over 49 in. Unpayable, 5,530 ft., having an average value of 1.5 dwt. over 33 in.

The Ore Reserves at the end of the year were estimated to amount to 8,090,000 tons, with an average value of 3.0 dwt. over a stoping width of 62 in.

New State Areas Ltd.

Issued Capital £1,514,037

Crushed 207,000 tons; yielding 26,913 f.oz. gold.

	£	Per ton crushed s. d.	Per f.oz. gold produced s. d.
Revenue from Gold	334,054	32 3	
Working Costs	325,916	31 6	242 2
	8,138	9	
Sundry Revenue	6,959		
Profit for Quarter	£15,097		

In addition to the above, £7,093 accrued during the quarter in respect of increased revenue from sales of gold at enhanced prices.

(Note: There was no liability for Government's share of profits or taxation for the quarter.)

Dividend No. 52 of 3¼ per cent (7¾d. per share) has been declared in Union of South Africa Currency, payable to shareholders registered at December 30, 1950.

The Development Footage sampled totalled 915 ft., and gave the following results: Payable, 479 ft., having an average value of 10.9 dwt. over 18 in. Unpayable, 436 ft., having an average value of 0.7 dwt. over 59 in.

The Ore Reserves at the end of the year were estimated to amount to 360,000 tons, with an average value of 3.7 dwt. over a stoping width of 43 in.

The Randfontein Estates Gold Mining Co., Witwatersrand Ltd.

Issued Capital £4,063,553

Crushed 1,020,000 tons; yielding 121,477 f.oz. gold.

	£	Per ton crushed s. d.	Per f.oz. gold produced s. d.
Revenue from Gold	1,507,836	29 7	
Working Costs	1,342,361	26 4	221 0
	165,475	3 3	
Sundry Revenue	15,259		
Profit for Quarter	£180,734		

In addition to the above, £35,905 accrued during the quarter in respect of increased revenue from sales of gold at enhanced prices.

Taxation for the quarter is estimated at £53,793.

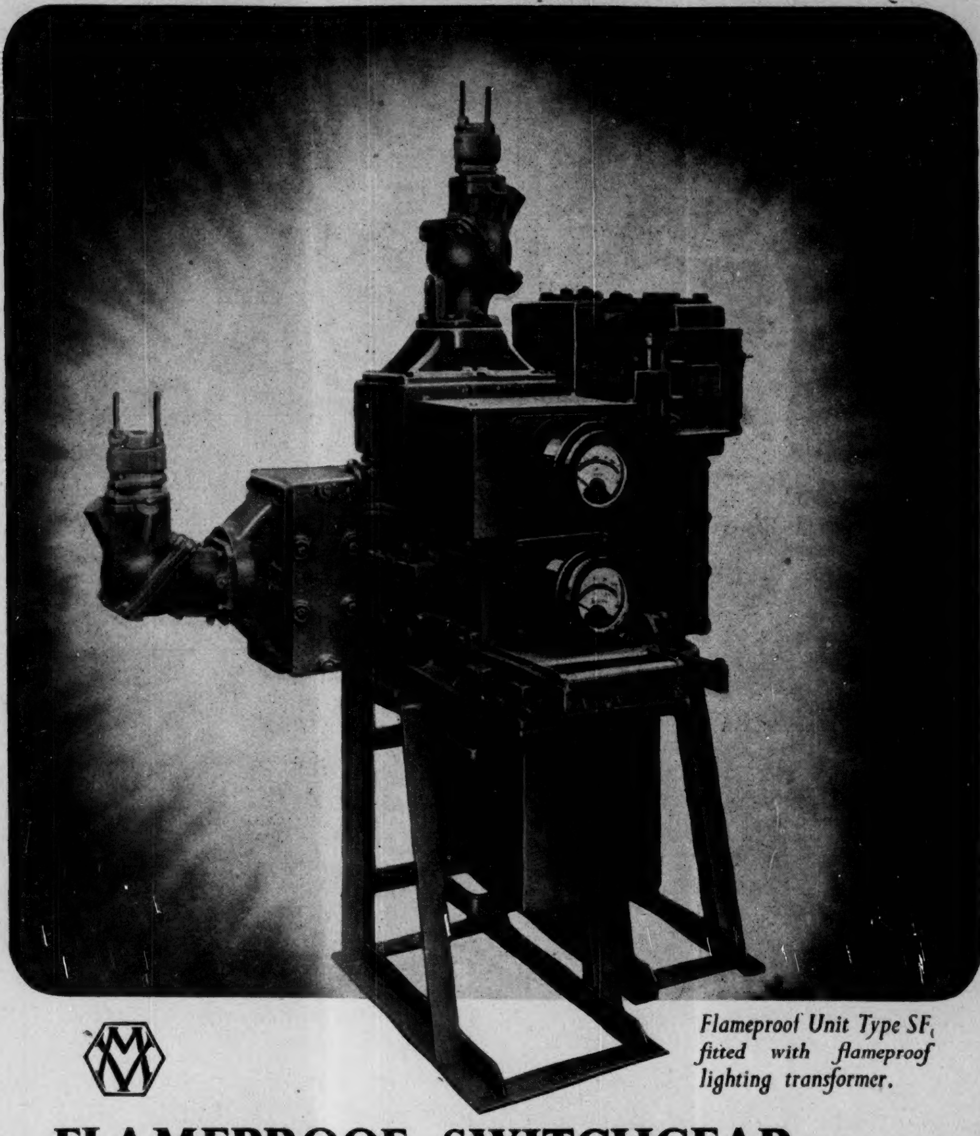
The expenditure on Capital Account amounted to £18,148.

Dividend No. 41 of 7½ per cent (1s. 6d. per share) has been declared in Union of South Africa Currency, payable to shareholders registered at December 30, 1950.

The Development Footage sampled totalled 14,175 ft., and gave the following results: Payable, 4,160 ft., having an average value of 6.1 dwt. over 39 in. Unpayable, 10,015 ft., having an average value of 1.8 dwt. over 46in.

The Ore Reserves at the end of the year were estimated to amount to 5,550,000 tons, with an average value of 2.7 dwt. over a stoping width of 51 in.

Metal and Mineral Trades



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